The American CINEMATOGRAPHER

A·MAGAZINE·FOR PROFESSIONALS AND·AMATEURS

In this number

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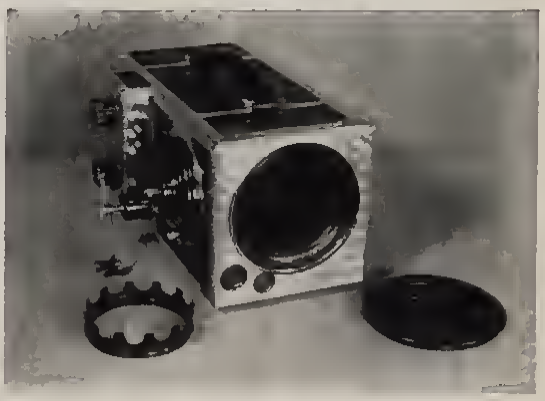

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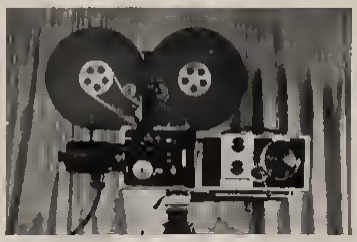

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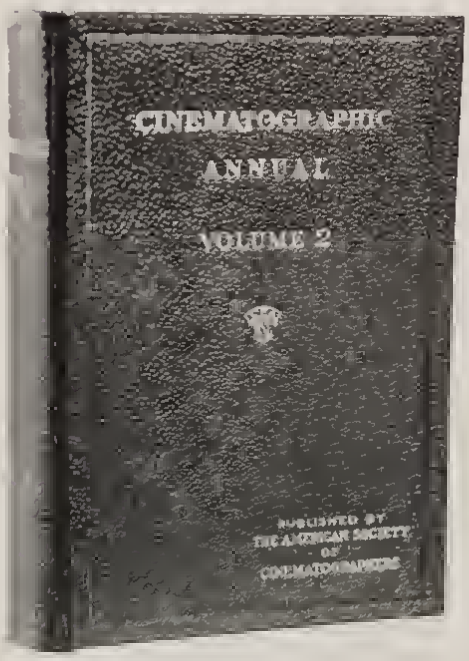

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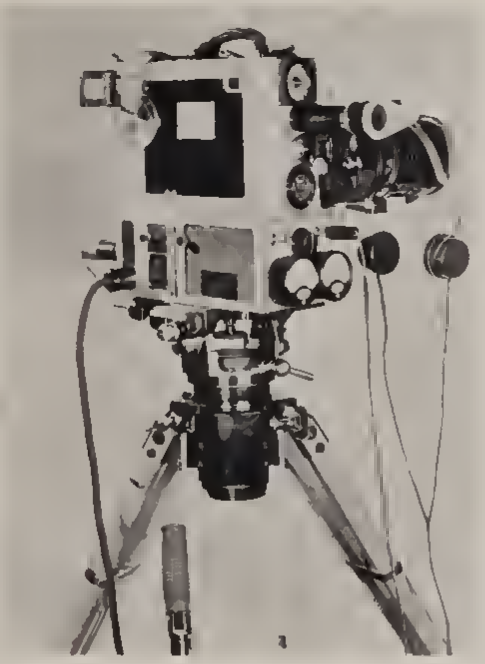

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Wandering With Vanderbilt

by **ALFRED L. GILKS, A.S.C.**

Chief Cinematographer Vanderbilt Oceanographic Expedition

● Editor's Note Mr Gilks left Hollywood last June on a globe-circling expedition with Commodore W K Vanderbilt The expedition left Northport L I, on board the Vanderbilt yacht, Alva in which the entire trip is being made Special camera and scientific equipment were taken and a special housing for underwater use of the Eyemo camera was devised for the trip This was described in the October issue

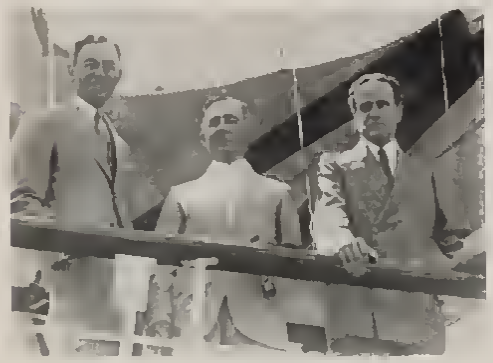
WELL, here we are at Lautoka If you will get out your map you will see that it is located on the northwest corner of the island of Viti Levu, which is the largest of the Fiji group Yesterday we steamed out of Suva which is on the southeast corner of the same island And while on the subject of Suva, let me say that you have never seen or felt humidity until you stop at Suva For three days it rained most of the time, and when the rain was not falling the humidity was so great that everything you touched was soaking wet Net result was that we couldn't do much with a camera That is one of the big problems you have to face when you come to this neck of the woods, and the man who some day will devise a way to impregnate every bit of equipment so that it will not be affected by moisture will be a millionaire.

A charming scene by Mr Gilks

At Lautoka the climate is a lot like Southern California, and the general appearance of the country also.

The hills build up rather gradually from the coast to the steeper mountains so along the coast there is a mile or so of good farm land, almost every bit of it is planted to sugar cane Lautoka has one of the largest sugar mills in the world The town is just large enough to supply the plantation laborers and the mill employees There is no other business of any kind There are a half dozen stores and a little hotel The sugar company runs a miniature steam railway to gather up the cane, 90 miles in one direction and 50 miles in the other We saw dozens of trains with 40 to 50 cars to a train, each car carried one and a half to two tons of cane

We arrived at Lautoka in the evening The next morning we went ashore about 11 00 A M with our equipment Finally found a rickety old car that was large enough to carry everything, then went to the bank to change some United States coin to Fijian English money We spoke to every white man we saw trying to find where there might be something of interest to photograph, none of them seemed to have much to suggest so went to the hotel and asked the proprietor who suggested we drive out the road to the south We drove out the road to a native village about 10 miles but there was nothing of interest along the road All the country shows the effects of a terrific hurricane that struck there last February, houses were wrecked and trees were blown down, practically all the native style houses had been blown away excepting the chief's which was more strongly built; even it is leaning heavily to one side and some of the roof is gone. Our driver, a Hindu, could speak Fijian and English, we spent an hour or so talking through him to the chief and some of the headmen The chief is a fine looking old fellow They brought out some old stone implements and an old kava bowl to show us, and told us some stories of the early days A gang of natives were painting and finishing up a European style frame



Left to right Mr. Gilks, Captain Harry Lane and Commodore W K Vanderbilt

Mr Gilks and some Samoan school children

One of the engines that pulls sugar cane to the coast at Lautoka, Fiji

Lined up for fishing Bora Bora Island, Society Group

house about the size of a 6 room bungalow for the chief, they all came out and loafed around in the shade with us The chief sent a man to get some green cocoanuts With a few strokes of their big knives a hole was cut in one end We drank our fill of the cool sweet water from inside the young nut Bob Bronner and I took snapshots of each other drinking

There was nothing of interest to photograph at this village or rather nothing but something similar to what we had previously photographed so we started back Just before reaching town we took a detour to the edge of the lagoon to a fine place to swim at the driver's suggestion It was a palm lined beach with clean white sand and a gradual slope out to deep water where the white people swim, the best beach near Lautoka No one was in sight and the driver could watch the only road, so Bob and I stripped off and had a nice swim We do not have very many swims as the "Alva" anchors in quite deep water and they have not been putting over the swimming nets. The chances of a shark being around is small but we are not supposed to go in unless the net is out

The next morning we were under way early heading in the direction of Australia It was a beautiful day with a strong, southeast trade wind kicking up quite a sea Thousands of flying fish rising like flocks of birds almost continuously from each side of the "Alva s bow Spent a good deal of the day working on the equipment it is a continual fight against corrosion and rust

Another perfect day followed and the trade wind had subsided and the sea was smooth and deep indigo in color not a white cap in sight, yesterday the surface was covered with big patches of white foam churned up by the husky tradewind, looked like patches of snow The sky a pure, clear blue, broken up with some gorgeous white clouds At 4 P M we arrived in the lee of Ameityum Island, the most southerly of the New Hebrides group We were within three or four miles of shore and could see a little government settlement with some radio towers The island looked very interesting, rather narrow

(Continued on Page 24)

On the beach at Venus Point Tahiti Some of the specimens gathered for the expedition Mr Gilks by the camera

The Woman as Film-Director

by **HARRY ALAN POTAMKIN**

I HAVE been asked a number of times "Can a woman become a film-director?" My answer takes two forms First, I make the obvious retort that women are in demand as players, as scenario writers, and as film editors Then I go on to say how few women have ever created films There was Lois Weber. She was one of the earliest directors and one of the few to act in films and direct them at the same time She and her actor-director husband, Phillips Smalley, appeared in and produced the first talking pictures back in 1908 for Gaumont Olga Tschehowa, Russo-German player, had a company built for her in Germany, and did some brief direction The talkie seems to have forestalled her aspiration Now we wait to see what Jacqueline Logan, formerly starred in American films will do as player-director in England

The unique American is Dorothy Arzner who developed from a film-cutter to a competent director of light comedy. Russia has Esther Schub who builds factual historical chronologies out of fragments of diverse pictures, and Olga Preobajenskaia, the erstwhile ballet-mistress who directed "The Village of Sin" We may expect to see many more women directors issue from Soviet Russia There is a State School of Cinema which accepts women in its courses The young daughter of the astute Chinese general and statesman, Eugene Chen, is now studying camerawork there and will then go into the course for directors In France, a young movie-journalist, Mlle Lucie Derain, has made her own documentary film of the streets rivers and incidents, the "Harmonies of Paris" Mme J Bruno-Ruby, novelist, journalist, former golf champion of France, has directed films too But the outstanding example and highwater mark among women movie-makers is Germaine A Dulac

Mme Dulac last year was elected a Chevalier of the Legion of Honor in recognition of her staunchness for the film as a distinctive art Her career in the cinema goes back to 1915, after a successful one as journalist The press and the pen have been the way to the cinema for many noted directors, such as Carl Dreyer, the great creator of "The Passion of Joan of Arc" and Rene Clair of "Under the Roofs of Paris" Mme Dulac has by no means let go of the pen since she took hold of the camera She has been a persistent literary crusader in defence of the intrinsic motion picture Press and platform have encountered Mme Dulac's attack on producer and exhibitor who assume that a film, the work of an artist, is anybody's merchandise, to be mutilated as anyone pleases She has also insisted upon what she accepts as the axiom of cinema, that the motion picture is inherently "visual" and when it wanders away from that it isn't a motion picture Moreover, she has been active in presenting new young artists, like Jores Ivens of Holland

Her first picture was "The Enemy Sisters" Following this she made "Geo the Mysterious" and "Venus Victrix" The war invaded the peace of the cinema One worked desultorily Mme Dulac filmed "Souls of Madmen" in 1917 After the war, in 1919, there came "The Cigarette" "The Spanish Fete," upon a scenario by the late Louis Delluc, pioneer of the art-film as director and critic, and "Mischance" "At this period," says Mme Dulac, "the French film began to re-assert itself and the possibilities of a cinema aesthetic were apprehended" In 1920, there appeared under Dulac's direction "La Belle Dame sans Merci" and "The Death of the Sun" In 1922, Obey's scenario, "The Smiling Mme Beudet," was produced She then pivoted to the ubiquitous serial, endeavoring to create in "Gossette" a sustained style to renew the declining idiom of the film-by-installments From the serial she turned to a scenario by Bouquet and realized the fantastic "The Devil in the City," in which she showed her sensible and sensitive understanding and use of virtuosities Then, in "The Artist's Soul," she introduced some absolute manipulations of pure film-processes In 1925, came a "visual poem," based on a narrative by the Russian writer, Gorki, called "The Folly of the Valiants" "Antoinette Sabreur," a classic of the French stage, was next, "mutilated," she maintains, "by the producer" Her latest works include the ingenious "The Sea Shell and the Clergyman," "Invitation to the Voyage," "Oblivion," from a novel by the Rider Haggard of France, Pierre Benoit, and an "Arabesque"

Of her own films, Mme Dulac prefers, among those "which have permitted me to work toward the evolution of the cinematographic art," "The Spanish Fete," "The Smiling Mme Beudet," "The Devil in the City," "The Folly of the Valiants," "The Sea Shell and the Clergyman," and "Arabesque", among those strictly commercial, "The Cigarette," "Gossette," "The Artist's Soul" Her attitude towards the film is concentrated in these words

"To my mind, in the present state of the cinema, films have only two values: market and research The director must seek, forever seek The cinema has not yet arrived at the zenith which permits creation in repose Yesterday prepares today, today prepares tomorrow"

A viewpoint such as this is fitting to the Gallic mind which creates a film as the problem of an individual artist at work in his own **atelier**, studio Indeed, Mme Dulac, like other French film-directors of merit, has been most interesting when the work she has done has been a personal adventure She has failed, as most French directors have, in the long, commercial, popular, shopmade film That is why it is so pitiful to find these directors forfeiting their independent graces to make foreign versions of American talkies Mme Dulac has not, I think, made that sacrifice yet Pictures by her for competitive exhibition, for the box office, have been bad, straining to make poetry out of the banalities The result is usually "poesie," paste jewelry, a sentimentalism of imagery and figure of speech frequently found in the work of our own important director, D. W Griffith

But whenever Germaine Dulac makes a film that is her own intention, there will be something worth one's interest She herself has said to me, in one of our many conversations in her home encased in old maps and studded with antique curios "Unless the French director prepares everything in the film himself from the script to the cutting, his film will not be fully realized We are not a people as yet for collective filming" A change in the social makeup may effect a change in this mentality, but tentatively we may say that Mme Dulac is right That is why, as I told her, it seemed so strange to me to hear the Frenchman insisting upon a quota to protect the French film from foreign competition, mainly American Mme Dulac, however, favored it, not to keep American films out, the intention of the French producer and politician, but rather to urge French fans to watch the film-work of their compatriots

French pictures, when they are well-done, are films calling attention to a method or a viewpoint or a quality necessary to enrich the evolving motion picture They have special, elite merit, and are not the rudimentary pleasantry enjoyed as a popular art But the French being folk, and being distracted by the carefree exoticism, the pretenses of the land **outre-mer**, do not seem to be yielding their preference for American

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Projected Background Anematography

A New Method of Making Composite Photographs

by **RALPH G. FEAR**

THE MOTION PICTURE industry is constantly progressing New inventions, new equipment, new laboratory developments and methods new production methods, in the studios, are constantly being revealed Two of the outstanding developments of recent times are the High Intensity Arc Lamp, developed by subsidiary companies of the General Theatres Equipment Corporation, and the Fast Film of the Eastman Kodak Company and the Dupont Film Company

The development of the High Intensity Arc is a direct result of the advent of Wide Film, with its need for greater illumination Fast Film can be attributed to the development of sound and the resultant sound proof stages, in which practically all productions are now made Faster film became an absolute necessity because of the fact that the sound proof studio is entirely illuminated by artificial and generally incandescent lighting These lamps generate a terrific amount of heat, and inasmuch as the sound proof studio is generally, and to all practical purposes hermetically sealed and, without proper ventilation, working conditions become intolerable Fast Film has made it possible to correct this difficulty by eliminating a large percentage of the lights that were required before its advent The two developments taken together have made other methods practical that were impossible in times gone by

One of the most recent developments in this catagory is a new method of making Composite Trick Photographs This new process which has taken the producing studios by storm and which is being used by practically all of the studios, at the present time, has been called the Synchro Projected Background Method This new method was first developed and used by the Fox Film Company in Ralph Hammeras' Department A great deal of experimentation and research work was done before this method of making Trick Pictures became practical Inasmuch as this process makes it possible to save a great deal of money in production, and because of this saving I believe that a complete description of the equipment and method of use will be read by all who are interested in photography

This method is not new It was patented many years ago and the patents have expired In order that studios, and others interested, may use this process without fear of patent litigation, I am disclosing the patents that are relative to this mehod and that anticipated this recent development I am also appending a list of other patents on process work which should be of general interest to the trick and composite photographer I believe that everyone interested in this type of work should secure copies of these patents for their own study and consideration

The Synchro Projected Background is a name for a special type of Trick or Composite photography in which the foreground action takes place in front of a screen which may or may not be transparent and upon which a picture is projected from a motion picture projector The common method of use is to use a standard camera that is synchronized with a projection machine At the present time a picture is projected from a projection machine onto a translucent screen which is erected in back of the fore ground action I have prepared a diagram which shows the set-up The translucent screen is generally made of glass that has been prepared for projection by grinding its surface or by coating it with a suitable material to give a translucent surface The screen is generally of a very large size being made of one piece of glass, and for this reason it is quite expensive Other materials may be found such as silk which will answer for this purpose but it will take some research work to find a suitable material In order to successfully use this system of making Composite photographs it is necessary to make some alterations on the standard machines used Inasmuch as the camera photographs the projection background and the action in the fore ground simultaneously no change or alteration is necessary in the camera equipment, but due to the fact that the projected picture has a low degree of illumination it is necessary to use fast camera lenses and low key lighting on the set Of course, it goes without saying that super-speed films must be used with this process The projected background picture must be perfect The picture must be absolutely steady on the screen, illuminated to the highest brilliancy possible and must be synchronized with the camera so that the shutter in the camera is opened at the same time the shutter on the projector is opened

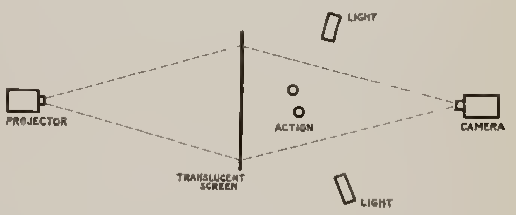


Fig 1

A new projection machine should be used for projecting the picture on the translucent screen The flicker blade should be removed from the shutter and where possible the intermittent movement in the projector should be altered and pilot pins installed, so as to hold the film absolutely stationary while the shutter is opened A high intensity arc equipment with aspheric condensors should be used The Ashcraft Automatic Arc Company built a lamp house equipment with this high intensity arc and aspheric condensors which gives a very brilliant oval spot on the projected gate This lamp house has proven ideal for this service The projection machine commonly used is the new type Simplex with back shutter The projection machine should be equipped with an inter-locking motor instead of the synchronous motor commonly used By using an inter-lock motor it is possible to set the camera and projector so that the shutters are exactly synchronized when in operation

When properly used with an equipment as outlined above, this new method of making Trick photographs gives perfect results If perfect results are not achieved the operator should look to the following causes for trouble

1 Improper synchronization between the camera and projector will result in a photograph in which the projected background does not show The remedy is to re-synchronize the camera and projector so that both shutters are opened at the same time This can only be done when the machines are not running

2 If the projected picture shakes on the screen and the background apparently moves it indicates that the projection machine is at fault and that a new intermittent movement should be installed

3 Fore ground lighting should be perfectly balanced and must be arranged in a manner so that no light from the fore ground lamps fall upon the translucent screen Any light that falls on the translucent screen will destroy the projected picture at the point where the light falls onto it The use of a colored screen, colored lights, and proper camera filters, will probably eliminate a great deal of trouble that might be caused from this source Note A study of some of the patents enumerated below will solve a great many of these difficulties

4 Improper illumination of the background will result in a picture that is unbalanced If a high intensity arc is used no trouble should come from this source, unless the fore ground is over lighted in which case there will be improper balance between the fore ground action and the background

While all of the studios are using arrangements as shown in diagram No 1, it is quite possible to use a new system that will dispense with the translucent screen and substitute a high reflecting opaque screen of the conventional type used in theatres I have shown a method of doing this in figure No 2 In this method a mirror is substituted for a translucent screen and the projector is arranged to project the picture through the mirror Of course, this method is subject to alterations and other arrangements There are certain advantages to using a system of this sort over the translucent screen and these are

1 It is possible to use a standard screen of high reflecting power

2 It is possible to arrange the screen in a way so that the fore ground lighting does not fall upon the screen and spoil the projected picture

3 The mirror can be made at a great deal less cost than a large glass translucent screen

4 Greater illumination may be used on the fore ground action without destroying the character of the photographed background

The intelligent Cinematographer will be able to use both of these methods to advantage for various Trick and Composite pictures New set-ups and new methods will occur to him as he becomes proficient in the use of this system Some set-ups will require a translucent screen while in others the mirror arrangement may be found to be more practical

Synchronized projected composite photographs are limited in their scope by the size of the screen used for the back ground And because of this limitation it is more or less impossible to use the so called pan shots As a remedy for this limitation the author would like to suggest that, for background work, the background be photographed with a Grandeur or Wide Film Camera and a Wide Film Projector be used for the projected picture By using Grandeur Wide Film it will be possible to use a much larger projected background The two to one ratio of pictures used on Grandeur Film is also more suitable for this purpose than the three by four used on thirty-five millimeter film and this feature makes it possible to use a background sufficiently large so that the camera man can pan and follow his action just as he does now in ordinary production Another great advantage in using Grandeur Film for the projected background is the better definition that can be secured in the projected background I would like to recommend to studios and other producers who contemplate using this method of making composite photographs that Grandeur Film and equipment be used for the projected picture, for I am firmly convinced that the result will be far superior to those attained with standard film Before leaving the subject of projected background I would like to point out still another method of using a projected back ground In this later method a still picture is projected upon a screen instead of a motion picture At the present time there is only one company who makes a projector suitable for this work and that is the Ashcraft Automatic Arc Company The Ashcraft still picture projector is furnished with a special water cooled lens which absorbs most of the heat of the projected beam of light A high intensity arc is used in the projector This method of using projected backgrounds requires special transparencies or slides which can only be obtained from the Ashcraft Automatic Arc Company The picture on the slide contains no emulsion and the slide itself is made of quartz which is not affected to any great extent by the heat It is impossible to use slides that have emulsion coatings as the heat destroys the emulsion practically instantaneously While the special slides required are comparatively expensive, their cost is of an extremely low importance when compared with the saving in production costs, resulting from their use In a very large number of cases the still picture projecting method is just as satisfactory, or more so, than the motion picture projection method Needless to say the apparatus required in the later process costs substantially less than the apparatus required for the synchronized motion picture projected method

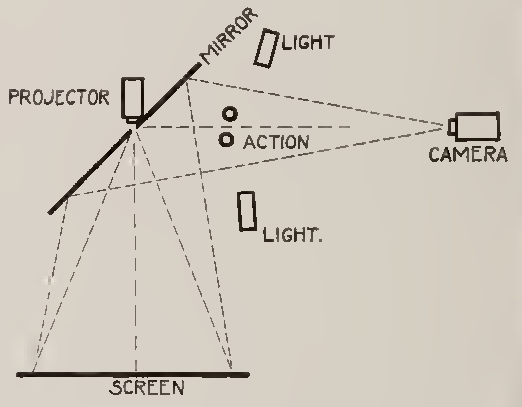


Fig. 2

One of the patents referred to in the beginning of this article, is number 4609, dated October 27, 1911 and granted to H Sontag under the title of Studio and Studio Accessories The subject matter of the patent is as follows,

STUDIOS AND STUDIO ACCESSORIES—An object **a** is photographed simultaneously with a background which is projected from behind on to a translucent screen **b** by a powerful lantern **d**. The screen **b** is colored with a color which has a weak chemical action, such as yellow, red, green, or the like The rays for lighting the subject falling on the front of the screen are thus absorbed or rendered inactive, while the rays from the luminous image on the screen produce an image of the projected background on the plate The object may be photographed in daylight, or may be illuminated by artificial light **g**.

The above patent is one of the very first issued on composite means of photography

H Goetz in patent number 147621 and 169233 shows two methods of making transparancies by using filters and various colored lighting

G H Sutcliff in patent number 175020, dated November 3, 1920 describes a method of making composite photographs in which 'the background may be a picture, painting, or view, or a screen upon which kinematograph pictures are projected;

(Continued on Page 261

Lens Testing

by **DR. L. M. DIETERICH**

Consulting Engineer

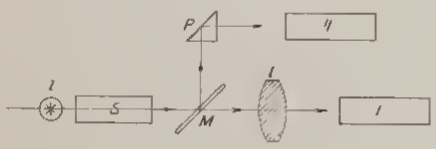
● Editor's Note This is the third installment of a series of articles on Lens Testing by Dr. Dieterich. The first appeared in the November issue. In the first article Dr. Dieterich discussed the test of focus giving the method and the equipment needed. In the December issue Dr. Dieterich took up tests for f. Speed. Absolute speed and Light transmission. Back numbers may be secured by those who may have missed the previous articles.

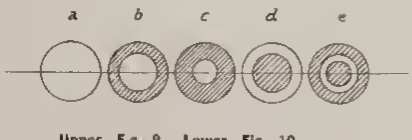
◆

Test No. 5 . . . Object of Test . . Chromatic Aberration

METHOD OF PROCEDURE

1. Use given light source, 1, spectroscope 5 (Fig. 9). Place half (50%) silvered mirror, M, behind spectroscope. Place test lens, L, in straight beam and project spectrum, I, on screen. Place fully reflecting prism system, P, in path of right angle beam and project spectrum, II, parallel, close and in register with spectrum, I. The difference of spectra is directly readable on the screen.





Upper Fig. 9. Lower Fig. 10

2. If desirable, photographic plate may be placed in position of the screen and a record of exposure may be made.

3. This test is made under the following lens aperture conditions: a, with lens wide open, b, with half area stop, c, with quarter area stop, d, with half area matte, e, with quarter area matte and half area stop. These tests (Figure 10) show differences in tonal corrections, and locate their line values in the spectrum.

4. To determine actinic reaction of chromatic correction, these tests are to be repeated by using as light source sunlight and in succession, artificial light sources, singly and in such combination as finally determined upon for other reasons, as standard interior lighting for Multicolor.

Necessary Equipment

1. Light sources: a, standard arc lamps, b, standard incandescent lamps, c, Mirror or prism attachment for sunlight use.
2. Spectroscope.
3. Half-silvered mirror and adjustable mount.
4. Fully reflecting prism system for beam displacement.
5. Screen. 6. Plate holder. 7. General combination unit mount.

Test No. 6 . . . Object of Test . . . Spherical Aberration

METHOD OF PROCEDURE

1. Rectangular pattern etched on silvered mirror is placed in camera with etched surface in same position as normal emulsion positive. This (mirror) pattern is lighted from the rear by suitable prism (or mirror), condenser and arc lamp system, and focused sharply on screen by means of test lens. Screen distance a constant. Spherical aberration is read by visual observation and measurement.

2. Test chart, preferably rectangular pattern, is now placed in identical position of screen, mirror removed from camera, standard shuttle inserted, exposure made, developed and printed.

Direct optical or projection investigation, by sight or measurement. Lens to be wide open at full f value.

Equipment Necessary

1. Motion picture camera. 2. Etched mirror, special shuttle and prism. 3. Condenser and arc lamps.

Test No. 7 and 8 . . Object of Test . . Astigmatism and Coma

METHOD OF PROCEDURE

Test lens is mounted in camera, camera turned in swivel mount to predetermined angle of deflection of optical axis of lens relative to optical bench center line. Pin point light located in optical axis of lens before deflection is sharply focused, exposure made, developed, printed. Optical and projection reading by sight and measurement.

Test No. 9 . . . Object of Test . . . Resolving Power

Photograph with motion picture camera resolving power chart with film of known resolving power emulsion. Chart distance of chart light source and film (+) constants. Develop and print. Investigate print with microscope and by projection.

Test No. 10 . . Object of Test . . Color Value

Same method as for Test No. 5. Use its results for direct reading.

Test No. 11 . . Object of Test . . Distortion and Depth of Focus

METHOD OF PROCEDURE

1. Repeat or use results of Test No. 6 for reading of pillow and barrel distortion.

2. For perspective distortion and depth of focus determination, place "fence", F, Figure 11, with distant background obliquely before camera, C, with fence post vertical, far end in optical axis of the camera (test lens) with near end visible on edge of frame. Read through finder and check by photographic exposures (optical and projection investigation of print) with lens wide open at 3, 6 and 50 feet focus, for both distortion and depth of focus.

3. Repeat with fence posts in horizontal position.

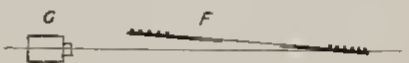


Fig. 11

(Continued on Page 42)

Making Movies in India

by **HAROLD C. SINTZENICH, A. S. C.**

DESPITE tremendous handicaps of every sort, India is rapidly becoming an important producer of motion pictures The story is perhaps best told by her raw-film imports— three years ago, when I landed in Bombay to serve as Technical Consultant for Kodak, Ltd , India imported 500,000 feet of both negative and positive stock annually Last year she imported 25,000,000 feet!

This tremendous increase is due to several factors, not the least being the advent of sound, for the vast Indian audience demands either silent pictures, or talkies in tongues that they can understand, as very few of India's 350,000,000 understand English, or any other European language, there is a wonderful opportunity for native production And despite the many obstacles, native producers are taking good advantage of it

The handicaps faced by these producers are appalling and the present volume of Indian production speaks well for the courage and enthusiasm of the native producers, technicians, and artists All of these individuals are natives; some few of them fortified by experience in European or American studios, but the vast majority of them self-taught Their technical facilities are generally limited, and their financial resources, judged by Hollywood standards, often equally so, but their enthusiasm, and determination to turn out moving pictures for the vast market at their door are boundless This last is fortunate, for they are attempting to overcome problems which would dishearten most of us

The technical facilities of the average Indian producing firm are about on a par with those of American studios of fifteen years ago Daylight stages exclusively—elderly cameras of all nationalities—Ortho film—crude laboratories—and a climate about which volumes (all uncomplimentary) could be written!

Daylight stages are used for precisely the same reason that they were first used in Hollywood: there is the sun, why not use it? There is practically no artificial lighting equipment to be had, so even talking pictures are made under these archaic conditions Orthochromatic film was, until lately, used exclusively because of the deep-seated conservatism of the native cameramen, who, having gotten thoroughly accustomed to the one type of emulsion, would see no reason for changing to a new and different one Of late, however—during the past year or so—several of the more progressive individuals have changed to Panchromatic, much to the improvement of their work

The makeup affected by the actors—all of whom are natives —is amazing The majority of these people are of decidedly dark complexions, but since they feel that they are competing with American and European players, they invariably wear unbelievably white makeups, carefully disguising every part or their bodies with chalky-hued pigments

The laboratories also suffer from the peculiar prejudices of the native workers Machine development is unknown; so is the accepted type of rack-and-tank development Instead, practically all developing is done in small, horizontal trays, slightly larger than the developing dishes used by a still photographer, and holding only one hundred feet of film As I have said, the work is done entirely by natives, and since the natives prefer to sit, or rather squat on their haunches when working, they cling tenaciously to this method of developing film During my stay in Bombay, I equipped a demonstration laboratory with vertical tanks and racks, and cooling tanks around the solution tanks—for the heat of the Indian summer demands special precautions for keeping the solutions at a reasonable temperature The native laboratory-wallahs came, saw, admired—and continued to use their own methods!

Acting and direction, too, are often rather less than up-to-the-minute The former inclines to the flamboyant posturings of the pre-Lubitsch era, and the latter to a deliberate, slow-paced tempo that is characteristic more of British films than of Hollywood Yet the audiences like the pictures—and several hundred million Indians can hardly be mistaken!

The advent of sound has done a great deal to modernize the technical equipment, but at the same time it has raised almost unsurmountable barriers commercially The recording equipment, and the cameras used with it, are naturally modern At present there is one RCA equipment, four or five Tanars, at least two Audio-Camex, and one Cinephon (the German variety, not the American Powers-Cinephone type) in use in India These have naturally brought with them excellent silenced cameras, and will in course of time, I believe, similarly improve the laboratory equipment and methods, and in some cases perhaps introduce closed stages and artificial lighting But they have also raised a grave problem as to languages

In India today there are 350 distinct languages and dialects spoken! What, then, is to be done in order to make talking pictures commercially practicable? With silent films, the problem, while in itself difficult, was relatively easy All that was necessary was an assortment of languages on the title-cards As a rule, there would be translations of title into at least six different languages (beside English) on each card This simplified things for the producer and the audience—but it made the theatres decidedly noisy for the vast majority of the native population, despite the efforts of the British and of many native educators, is illiterate, so every native who could read felt it his duty to read each title for as many of his neighbors as could hear his voice! So in all the native cinemas it is quite the usual thing to hear a dozen or so natives reading off the titles in half a dozen different languages—and each shouting at the top of his voice to broadcast his message as effectively as possible The effect has really to be heard to be believed

The problem introduced by the talking picture can readily be imagined A picture made in the prevailing language of one city or province will not be understood in other parts of the country—or, perhaps, even by large factions of the theatregoers of its native city On the other hand, of course, talking pictures will greatly benefit the illiterate classes, and eventually develop a universal Indian language At present, however, the problem is to settle on which one of India's 350 languages and dialects is to be that universal tongue Naturally enough, each producing firm feels that its own speech should be that one The result is of course that both audiences and producers are suffering Eventually, I believe that Hindustani will be the choice, for it is the only one that is spoken at all generally throughout the country English is entirely out of the question, not only since but a few of the more educated classes speak it, but because it is, due to the present disturbed political situation, intensely unpopular

Nevertheless, despite all of these handicaps, Indian motion picture production is growing in quantity, and steadily improving in quality It is hardly conceivable that India will ever become an important exporter of motion pictures, but it is inevitable that she must eventually become a large producer in order to serve her own domestic market

Photographing the Hoover Dam Project

IN WHAT doubtless will prove to be one of the greatest photographic achievements ever attempted in this era of modern development is an authentic record in motion pictures of the construction of the Boulder Dam project, plans for production of which are being made by the American Society of Cinematographers

Appreciative of the historical, educational, technical and scientific values to be derived from motion pictures that would include an account of the step-by-step development of a project to cost $165,000,000, and which will stand as a colossal accomplishment of modern progression, the Production Committee of the American Society of Cinematographers, under the leadership of Daniel B. Clark and Norman De Vol, conceived the idea of photographing this undertaking

Extensive correspondence carried on by Chairman Clark and Mr De Vol with the Bureau of Reclamation at Washington and at Hoover Dam resulted in the Society's decision to appoint Mr. De Vol to represent it in negotiating final arrangements In an interview with Walker S Young, construction engineer in charge of the project, the possibilities of making a motion picture record of the work were discussed in detail and a proposed program submitted by De Vol who was granted a permit by Engineer Young to photograph construction activities in any part of the Hoover Canyon Federal Reservation

After more than a week spent at the site of the project, De Vol returned with a motion picture account of the preliminary progress, together with a comprehensive report and data concerning this gigantic undertaking More than 1000 feet of test film was exhibited on Monday night, December 28, at a meeting of the Board of Governors of the American Society of Cinematographers, after which Mr De Vol discussed with Society members the possibilities of the prospective venture The result was that plans now are being formulated by the Society by which the detailed progressive construction of the project in motion pictures may be given world-wide exhibition under A.S.C supervision The association of this organization with so important a project as Boulder Dam is in accord with all activities where proven competence is recognized

The cooperation of the United States Government and the Six Companies with Mr De Vol as representative of the A S C is the result of his painstaking work and conscientious effort to conform with their policies while photographing the preliminary progress of the project, and much credit should be given him for the sincere and business-like manner in which he has handled the proposition for the Production Committee of the Society.

Some idea of the enormity of the task of constructing this great project may be gained from the very accurate account brought back by Mr De Vol, partial details of which follow:

Hoover Dam, the name of which was adopted September 17, 1930, in recognition of President Hoover's efforts in behalf of the project, is to be constructed in upper Black Canyon, on the Colorado river at a spot about thirty miles southeast of Las Vegas where the river forms the Arizona-Nevada State boundary The vast project includes the construction of a dam, power plant and the All-American canal leading into Southern California

With a precision that is identical with all governmental projects, Six Companies, Incorporated, in keeping with their tentative construction program, under the capable direction of General Superintendent Frank T. Crow, is employing more than 3000 men whose work is confined in an area less than two miles in length and 1500 feet wide In this small area night and day shifts are engaged in the tremendous task of blasting through solid rock, four diversion tunnels, two on each side of the Colorado river and averaging more than 3000 feet in length with a diameter of fifty feet These tunnels will divert the present flow of water and the tremendous floods that soon will be rushing down the Colorado

Approximately eighteen miles of standard railroad already has been built on which are operated six-wheel gasoline motor-car engines employed to haul gravel to a plant built at a cost of $500,000 Here it is cleaned, preparatory to being mixed with cement, approximately 5,000,000 barrels of which will be used in construction of the dam It is interesting to learn that the site of this gravel plant, at the completion of the

(Continued on Page 31)

Here are entrances to three of the diversion tunnels now under construction at the Hoover Dam site.

Two New Dupont Film Products

Here is some information about Du Pac for color photography and Telefilm for aerial use.

by **V. B. SEASE**

THE LIGHT-SENSITIVE silver salts used in photography cannot record and reproduce scenes in their natural colors They are capable of giving only gray tones corresponding to the brightness of the objects regardless of whether the objects themselves are gray or colored

All practical schemes for reproducing a scene in color resolve the scene first of all into a number of color component images For example, three successive exposures of a given scene may be made on three panchromatic films in an ordinary camera, the first with a blue filter, the second with a green filter, and the third with a red filter, over the camera lens Since the blue filter passes only the blue rays of light and excludes the green and red, the first film will record only the blue objects in the scene Similarly, the films behind the green and red filters will record respectively only the green and red objects These three color separation records are negatives which, upon development and super-imposition, will give a composite negative equivalent to that obtained with a single exposure on panchromatic film without a filter

With these three color-separation negatives, a number of things become possible Three prints may be made upon transparent supports, and projected simultaneously in superimposition upon a screen through the corresponding taking filters whereupon the scene will appear in natural colors Or, the prints may be suitably dyed, superimposed, and mounted as an ordinary photograph for the production of a color print

Such a scheme is termed a three-color process Through the use of filters corresponding to the three primary colors, all the secondary colors may be recorded and reproduced For example, yellow objects in a scene will be recorded, partly on the red separation negative, and partly on the green The appearance of yellow, when projected as described above is due to the combination of green and red light from two of the prints

It is necessary to expose all three color-separation negatives simultaneously in scenes involving action This may be done with a special camera which directs the optical image into three paths through blue, green and red filters to three separate films

Obviously, such a system for the production of the large number of prints required in the motion picture industry, involving three films and special apparatus, would be expensive and cumbersome to operate Many schemes have been proposed for simplifying color photography for this industry It seems imperative that three-color photography be used for general exterior work, since the eye readily recognizes unfaithful reproduction of blue sky, green foliage or flesh tints But in many interior scenes where foliage and sky are absent, two-color processes have given very satisfactory results Technicolor achieved considerable success with a two-color process making two-color separation negatives in a special camera, which recorded blue and green on one film and yellow and red on the other

DuPac is du Pont s development of the bi-pack idea proposed many years ago for producing two color separation negatives It consists of two rolls of film, matched as to perforation dimensions, and designed to be run through the standard motion picture camera with only slight adjustments The two films are threaded in the camera with the emulsion surfaces in contact The front film, the one nearest the lens is sens t ve only to blue and green rays and has an orange filter associated with its emulsion coating The rear film is panchromatic, that is, sensitive to all wave lengths of light When an exposure is made, the blue and green objects are recorded in the front film and the orange and red objects in the rear film This is possible, since the front film is insensitive to yellow and red, but is quite transparent to those rays so that they pass through the sensitive coating as well as the orange filter, and effectively record the yellow and red objects on the rear film The orange filter provides a clean separation by preventing the passage of any b'ue or green rays to the rear film

A spool of Telefilm for aerial work
It is 9½ inches wide and 75 feet long

Prints can be made from DuPac negatives in several ways The method most commonly used is to print one negative on one side of double-coated positive film, and the other in register with it on the other side The images are then suitably dyed or colored by separate treatment of the sides

While DuPac has limitations regarding natural color reproduction, very pleasing and practical results have been obtained by those who have worked with a knowledge of its limitations A number of leading companies have used it in making color sequences The North Polar and Latin-American expeditions and the Vanderbilt cruise carried large quantities of DuPac when they set out recently

Telefilm

Under the name Telefilm, du Pont has recently put out a giant spool of roll film—9½ inches wide and 75 feet long—for use in aerial photography Large quantities of such film are used for aerial surveying, both by the United States Government and by private concerns This film is panchromatic, special attention having been paid to its red sensitivity Since the red rays penetrate fog and haze more satisfactory than the blue wave lengths, considerable advantage is obtained by use of a highly red-sensitive product The film can be used at a greater height than others, and also gives better definition and detail of objects on the ground

A Message to the Motion Picture Industry

from **JOHN ARNOLD**
President, American Society of Cinematographers

AS WE enter this new year, we find the motion picture industry passing through deeper and more troubled waters than ever before. Fresh upon the tremendous economic changes wrought by the advent of sound, with its colossal expenditures and far-reaching curtailment of income, has come a world-wide financial depression. The cumulative effect of these and other similar factors have brought us face to face with the gravest crisis our industry has yet had to face. The motion picture industry as we know it today is literally on trial for its life. Its future—and with it our individual futures—hangs in the balance.

The situation calls for heroic remedies. No aid can be expected from the outside. The great financial powers that have hitherto come to our aid in times of stress are themselves hard-pressed, the general public which supports us is in similar straits. We of the motion picture industry must work out our own salvation. Every one of us—from the humblest carpenter to the greatest star or producer—is directly concerned. We must help each other, for our own personal interests if not for that of the common good. We must realize that for once at least it cannot be a question of the individual, or the group, but of the entire industry. We must work together to give the industry the impetus it needs if it is to survive.

This impetus is twofold: primarily it must be financial—either savings or added profits by which to enable the individual producing organizations to bridge the gap until the turn of the economic tide; secondarily, it must be psychological—to enable the personnel of the industry to do their best work, unhampered by fears of discharge, lay-offs, or salary reductions.

For a long time executives have sought a means of accomplishing these ends. Negative costs have been pared to the bone. Production schedules have been shortened to the minimum. In many cases policies of constant, if reduced, production have been adopted to heighten the morale of the studio staffs. Sweeping salary-slashes have frequently been considered, but have generally been abandoned because of their bad influence on this same morale. But these measures have not been sufficient to check the downward swing. More radical steps are imperative.

The only remaining possibility is a series of drastic salary reductions—**unless the personnel of the industry can unite to devise and put into action some other plan.**

The American Society of Cinematographers has such a plan to offer. It is truly a heroic remedy, for it will entail the whole-hearted cooperation of every studio worker, from the highest executive down—and in some cases even temporary personal sacrifice. But it will, I firmly believe, start our industry back once more on the road to security.

Briefly, the plan is this: that every studio worker receiving a salary in excess of one hundred dollars per week—from laborers up to and including stars and executives—donate to the company to which they are under contract, their services for one picture. Nearly all of us can afford to do so, those who cannot can at least donate, throughout the course of a year, the three or four weeks' work that represents the time spent on this one picture. Others, whose contracts call for a certain number of pictures, can have an extra picture (paid for) added at the expiration of their contracts. But all of us must keep in mind that this measure is not for the profit of the company, but for its safety, its life—for the very existence of the industry as a whole—and hence for our own individual security.

And what will be the result of such a step? Security for all of us, first of all, and the mental freedom that comes from the knowledge that our jobs are secure, that our salaries will be maintained as they are, without layoffs or reductions. We shall be sure of our jobs, and free to do our best work.

But will such a step be sufficient to accomplish all this? Unquestionably, it will. It will, of course, only apply to the major studios, each of these counts eight or ten major stars. If each of these stars and the executive and technical staffs that produce their pictures would donate their services to produce one picture, the cost of which would be confined to the physical materials used—film, sets, and current—and menial labor, the net saving to the firm represented by the ten pictures would be approximately $3,000,000. This in itself is more than could ever be accomplished by any conceivable salary cuts, even if combined with a reduction of negative cost. Adding to this the probable cash returns from the box-office, the project would mean a total cash saving and profit of approximately $8,000,000. When figured for the six major studios that would probably participate in such a move, it would mean that the personnel of the industry had donated to the industry, for the common good, $48,000,000. Such a sum is vastly greater than could be raised in any other manner. It would not go to enrich any one firm or individual, but to put the industry as a whole on a secure footing until the times improve. It would mean life for the industry, and safety for those who derive their livelihoods from the industry.

But what reason is there for taking such a step? Why should we donate our services to such a cause?

Let us look at the matter in a purely personal, selfish light. We have all of us spent years in preparing ourselves for the positions we now hold. Whether we be cinematographers, laboratory or recording engineers, art directors, directors, writers, stars, or executives, we have made ourselves specialists in one thing—motion picture production. We have spent years, effort, and money in fitting ourselves for our specialized work. We each of us represent a tremendous personal investment—and that investment will only bring us returns as long as we remain in the motion picture business. We can only remain in that business as long as it is sufficiently healthy to continue operations. Today the industry is a very sick business indeed. It rests with us whether or not it will emerge from the crisis as strong and healthy as before. It is therefore up to every one of us, as individuals as well as members of the industry, to strain every effort that the industry which has given us so much, and which can still give us so much, may recover as speedily and completely as possible. It is up to us to cooperate with our fellows that our own future may be made secure. Individual efforts are not enough: we must for our own selfish interests, cooperate completely, whole-heartedly, and enthusiastically. We must combine to pull our industry from the financial mire into which it is sunk, and to pull our individual and collective morale out of the slough of despond.

(Continued on Page 37)

HAL HALL

says

Happy New Year

WELL here we are Looking another new year right in the face

What are you going to do in 1932?

Are you going to sit back and yap about the hard times, as so many people have done throughout all of 1931, or are you going to put on that big grin, tighten up the old belt, square the shoulders and plunge in with the idea that 1932 is going to be the best year of your life?

This is a darned good time to take stock of ourselves Probe deep and see what we could have done last year to have helped lick this thing called depression And then, when we have found that we slipped badly along the way, just hop in and refuse to make the same mistakes again Strange as it may seem, the past year has been an excellent one for this magazin And there is just one reason When the sledding was the toughest we buckled down and worked harder than we had ever worked before And—depression or no depression—if you get down to hard work and plug with all your might, you just cannot help but get ahead

A salesman for the Real Silk Hosiery people breezed into my office one day recently He had a smile on his face that made you glad to see him He was all business, and sounded a cheerful note along with it I asked him how he found business

"Had the best year of my life this year," he answered

"How come?" I asked

"Well, I call on more people now Work three nights a week, and all day Saturday And I have piled up more business than I ever did before"

There you are And in the face of competition in the ten-cent stores which offer socks at ridiculously low prices

Another friend of mine sells insurance He told me the other day that he has rung up a record year for himself in 1931— has sold more life insurance than in any year since he started in the business Reason—' Just decided that as this looked like a tough year I'd better work a bit harder So I did "

Looks like it is a case of hustle, and then hustle some more, instead of sitting down waiting for a bunch of orating Congressmen to figure out a way to bring back prosperity If we all do just that, I, for one, believe that it will be a Happy New Year

◆

Pictures and Profits

ANNOUNCEMENT the other day from New York of the fact that Metro-Goldwyn-Mayer and subsidiaries had earned $6,257,998 for the year ending last August 31, proves a couple of points rather conclusively One is that if a company makes consistently good pictures it will come pretty close to coming out with the balance on the right side of the ledger The other is the you cannot dabble in production and exhibition very successfully

M-G-M has given the public a very good picture product, and present indications point to a continuance of this calibre The old public may be foolish in lots of ways, but it still knows what entertainment is, and if you give it to said public the seats in the theatres will be fairly well occupied Many wise-cracking writers who wish to draw attention to themselves, take nasty shots at Mr Mayer and Mr Thalberg declaring that they are dumb and what not But these two gentlemen must be quietly laughing right now when so many film companies are reporting themselves in the red to the tune of millions

◆

Percentage

SAM GOLDWYN sounds a sane note when he advocates paying for picture stories on a percentage basis Why not this method?

A writer toils for perhaps a year on an idea which finally becomes a play or a story Why should a picture company risk a tremendous sum of money on the yarn? Also, why shouldn't the writer reap his just reward if the story happens to be one that "clicks"? And, why limit the percentage basis to writers alone? Let the big star take the chance along with the producer and the story writer If said star's name is big enough to drag the shekels into the box office, then give said star a just percentage of the profits If the star cannot drag 'em in, let the star take it on the chin along with the producer This writer is of the opinion that there are any number of stars who may have been drawing cards in the past, but who are now dragging down big money on past reputations only If this little matter could be straightened out there might be less financial worry on the studios—and those technical men who get more or less kicked around while being underpaid might have a chance to at least get a decent wage and work with peace of mind-

◆

Pardon Us!

ON PAGE 39 of the December issue of this magazine appeared a brief article pertaining to Shutters in 16 Millimeter Cameras In connection with this article was a table of shutter openings of the various 16 Millimeter Cameras The Victor Cine Camera was given as 170°, but the manufacturers have informed us that the shutter opening of the Victor is 205°, and we gladly offer this correction, with our apologies to the Victor company for the error which was inadvertently made

The Pictorialist Annual

HEARTY congratulations should be extended to the Camera Pictorialists of Los Angeles for the splendid photographic annual which has just come off the press To attempt to describe the beauty of this book would be a bit useless It is sufficient to say that it should be a delight to the eyes of every picture lover

There are one hundred plates, representing the best prints submitted to the 15th International Salon Printing and engraving are excellently done Adcraft of Los Angeles published the book for the Pictorialists

Solitude

Billy Fox

Sunset — Mike McGreal

Evening Clouds — Mike McGreal

Contentment

© J. Meyer

Concerning Cinematography

Critical Comments on Current Pictures
by **WILLIAM STULL, A. S. C.**

DR. JEKYLL AND MR. HYDE

◆ By long odds the best-photographed picture of this month—or of many months—is 'Dr. Jekyll and Mr. Hyde". In it Karl Struss, A. S. C., has produced one of the most superb examples of cinematography yet screened. Layman and technician alike will undoubtedly appreciate the brilliant work of Director Reuben Mamoulian and Fredric March, Miriam Hopkins, and the rest of the cast, but to the cinematographer, Karl Struss' flawless camerawork will inevitably be the most notable feature of a notable production. In it he has steadfastly refused to go to any of the cinematic extremes that such a story at once suggests, and has instead given the picture a restrained, yet always sympathetic treatment that will long be an example for his fellow cinematographers.

Furthermore, Struss has achieved the difficult feat of giving each individual scene the treatment most suitable to its mood and action, yet retaining throughout the visual mood and quality needed to maintain the proper balance for a coherent picture. An example of this is found in the love scenes between March and Rose Hobart: these are treated with an appropriate soft quality that greatly enhances the excellent acting and dialogue, but which is yet in no way unpleasantly contrasting with the crisp, almost harsh scenes of the formal ball with which they are intercut.

The transitions between **Jekyll** and **Hyde** are very effective'y handled, the first of them in particular being without doubt one of the most brilliant examples of perfectly coordinated photography, sound-montage, and direction ever made. One or two of the later transitions, however, particularly **Hyde's** first transformation back to **Jekyll**, would have been more effective had the component lap-dissolves been longer and slower; for while the relatively short dissolves used indisputably speed the tempo of the sequence, they also tend to make the mechanics of the transformation more obvious than is wise.

Aside from this relatively minor detail, the only possible criticism is of the opening scene, in which, for nearly a full reel, the camera itself enacts the part of **Jekyll.** This is in itself an excellent dramatic conception, but it is executed, unfortunately, by means of a long sequence of trucking shots and free-head 'pans' which, though expertly photographed, begin the picture with a confused note that is totally at variance with the deft sureness of the rest of the production. From this point on, however, the picture is a model of perfection in its freedom from unnecessary camera-motion, camera-angles, or sensational lighting-effects.

HELL DIVERS

◆ Despite story values, acting, and direction, aviation films will always be personal triumphs for the camera crew. "Hell Divers" is no exception to this rule. Despite a better story than most films of its type, and outstanding performances by Wallace Beery and Clark Gable, it is essentially a personal triumph for Chief Cinematographer Harold Wenstrom, A. S. C., Aerial Cinematographer Charles A. Marshall, and John Arnold, A. S. C., who personally supervised the process photography. Of the three, Wenstrom had undoubtedly the least spectacular opportunities, you cannot do a great deal with naval barracks, the interior of an aircraft carrier, or sets of such a nature—yet Wenstrom has handled all of these, as well as the exteriors and the more photogenic interior sets, both capably and artistically. An interesting part of his achievement is the fact that, despite the fact that the male members of the cast played their parts without makeup, he has made them all look perfectly natural and completely avoided the deliberately "un-made-up" look that is so often noticed in such instances.

Marshall's aerial cinematography is more than outstanding. Periodically throughout the premiere performance in Hollywood, the audience broke into spontaneous applause at his superb work. More important than this, however, to the cinematographer, is the technical excellence of the aerial scenes, for they are beautifully photographed (never—even in the night sequences—overcorrected) and moreover, of action that is supremely difficult to photograph well.

The process work—of which there is a very great deal in the production—is the finest observed in a long time. It is literally indistinguishable from straight photography. There are several miniatures, most of which are excellent, although the one shot of Beery's take off from the beach is markedly poor. The scene showing the plane landing on the beach, it may be mentioned, is not a miniature, and reflects endless credit upon the unnamed naval flier who so skillfully set a fast-flying "ship" down on M-G-M's back lot.

One of the introductory titles stated that the Navy Department cooperated in the making of the picture. This is obvious. Another equally obvious fact that was evidenced at the premiere was that the Navy Department somewhat regretted its generosity, for in several scenes showing airplanes landing upon the deck of the aircraft carrier a mat was suddenly run up into the picture to conceal the workings of the arresting gear. This is strange, for the Navy has previously seen fit to release several newsreel stories of carrier landings, and to print in such widely-read periodicals as the New York 'Times" and the "Illustrated London News' many highly revealing still photographs of the operation. Yet at the last moment the wise ones in Washington would seem to have become frightened at revelations of the same thing in a film which was made to honor Naval Aviation!

RACING YOUTH

◆ Sometimes the managers feel called upon to rush production beyond reason, and when this is done, little more can be hoped for than that some sort of an image will eventually reach the screen. "Racing Youth" seems to have been made under this handicap. George Robinson, who photographed it, has a reputation as a capable cinematographer, and as a cinematographer capable of working fast and efficiently; but in this picture he appears to have been constantly pressed to meet the demands of an impossibly short schedule. The result is not creditable either to Robinson or to Universal. The picture may have been turned out on a money-saving schedule, but it was false economy, as the excellent cast, story, and direction are not shown to their best advantage.

HER MAJESTY, LOVE

◆ On the other hand, cinematography properly done can—and oftentimes does—save an otherwise undistinguished picture. The most recent instance of this is 'Her Majesty, Love". The story is negligible, the cast, though capable, has nothing to do, and the direction is heavy-handed and slow. But Robert Kurrle's cinematography is outstanding. He invests the production with an air of importance solely through the richness of his camerawork. Even in the scenes played in "Lia's" shabby apartment his work—without detracting from the intended shabbiness of the set—lends dignity to the production.

CAN YOU AFFORD TO IGNORE IT?

A NEW order is coming into being in the motion picture industry. Now actors work with greater comfort... less fatigue. The director's load has been lightened. The cameraman is creating new standards in his art. The laboratory is turning out better prints. The exhibitor is getting better pictures.

The reason?... Eastman *Gray-Backed* Supersensitive. It is this film which has caused the far-reaching changes in procedure. Upon *it* depend the new beauty, the new convenience, the new economy in present-day motion picture production.

If you are not yet using this revolutionary negative film, can you afford to ignore its startling advantages any longer?

EASTMAN KODAK COMPANY

J. E. Brulatour, Inc., Distributors

New York Chicago Hollywood

Wandering With Vanderbilt

(Continued from Page 9)

beaches well covered with cocoanut palms and other trees, the mountains rising quite abruptly from the beach

Noumea is located on one side on land sloping back to the foothills, which are a half mile or so from the shore at that point. It has quite an industrial appearance, couple of fair sized smelters on the docks, some big warehouses and there are a number of good mines in the back country. The town has a population of 12,000 whites, there are more whites than natives, just the opposite to all the other places we have visited in the South Pacific. The town has rough unpaved sidewalks, dirt streets in rather poor condition and each house has a pipe running to a gutter in front of it which carries off the sewage water—there is a good slope to the streets. Near the center of town there are two blocks devoted to a park, just the native trees left standing with dirt paths running in all directions. Practically all the stores and houses in the town are of wood or galvanized iron, there are exceptions of course there are a few nicely designed and well built buildings and out a little way there are some attractive dwellings. The Grand Central Hotel was recommended to us for dinner and is a rambling two story wooden building, very old fashioned. French is the only language spoken here although the proprietor of the hotel could speak English. We had a good dinner with lots of fresh vegetables. There aren't any street lights in Noumea so it was quite hectic stumbling along over the rough streets and sidewalks back to the boat landing six blocks away.

Another thing I must record, we passed another ship about twenty miles from Noumea, the first one in the 7,000 to 8,000 miles we have cruised since leaving Panama. We thought we passed another ship underway off Makatea Island the day we reached Tahiti but found out later she was just standing by waiting to come into the dock at the nitrate works there. This South Pacific Ocean certainly isn't overrun with traffic.

We had to check our camera equipment through customs at Noumea for the first time. The custom broker could speak English so he explained in great detail to the driver what we wanted to do and advised us to go to Saint Louis Mission at a native village ten miles out. It was a perfect day, in fact the weather here is just like California weather at its best in the spring and fall. As soon as we left the town the road was quite good and the rolling hills were covered with trees and grass. Some of the slopes were covered with vegetable gardens laid out in little squares. For long distances along this road one would have no idea they were on the edge of the tropics, all the trees of a temperate zone variety. Then the road would drop down near the shore line and we would be amongst some fine cocoanut groves.

The Catholic mission of Saint Louis is located on top of a little hill or sort of bluff with a marvelous view of the flat land and bay in one direction, the mountains rising up a half mile away in the other. It was founded in 1865, when the natives were wild and some cannibalism existed. It is a picturesque place; the little church and buildings around it; school for native boys, school for the girls, priests' living quarters and then a series of buildings jagging down the hillside. A stream of water enters at the highest building and operates a water wheel which runs an old fashioned saw mill when they make lumber from logs, then the water drops to the next building and runs a wheel that drives a generator and so on down the line. They print a little paper once a week, grind their flour, run a little machine shop and blacksmith shop and in the old days, twenty years ago, used to make rum from the sugar cane. The priest who showed us around was a fine little fellow in his black gown and white helmet with his long beard. He couldn't speak English and our poor driver could interpret very little but our guide was full of fun and humor and we enjoyed the tour around with him. After we finished our inspection of the place we returned to a vine covered porch and the missionary dugout a bottle of the twenty year old rum and gave us each a glass. I don't mind saying it was very good. He said they have just a few bottles left. About then the bell rang for the children to come back to school for the afternoon session and our host had to leave us. We went down the hill to one side to the native village which is located in a grove of tall cocoanut trees and a sort of big oak-like tree—a very pretty setting. The houses were quite well built of reeds, grass and palm leaves, most of them and the sidewalls were well plastered with mud. There was nothing unusual about the natives, looked just like American negroes and not dressed much differently. In every direction was a perfect background for a picture if we could just have had something for the foreground. Just to shoot them without anyone in them would not mean a thing even if they were good.

Australia

Our first view of Australia was a high point with a big light house on it very much like point Vicente at Palos Verdes. We picked up a pilot there and threaded our way thirty miles up a very wide shallow bay to the mouth of the river. Brisbane is located some six or eight miles up from the bay. The first mile or two of the river was uninteresting, rather flat and swampy, then it narrowed down to about 250 yards and passed through low hills and bluffs always swinging in wide "S" and reverse curves, seldom could we see more than a half or quarter mile of river ahead of us; like driving over a twisting winding highway in a car. For several miles before we reached our dock on each side of the river there are houses, sometimes a golf course, then a boulevard would parallel the river for a ways. Almost every house that was located on the river's edge had a little landing and a boat of some kind tied to it. It certainly is an ideal place for small boating; deep winding river with a wide bay just a few miles away. The current in the river is almost imperceptible. The river winds through almost the center of the city, a number of fine big steamers from all over the world are at the docks along side nearest the business section. We came on up a mile or so farther and are moored to a dock which is owned and occupied by a flour company. It is lucky because it is so clean. Across the river from us is a big school with a large green athletic ground like a park so we have a refreshing outlook that way.

September here is the same as March at home north of the equator. The weather here now is almost exactly like Southern California, warm but dry if the sun is out, quite cool if it is overcast. After sundown one of my heavy suits feels just right and I sleep under one or two blankets at night. First weather we have experienced like this since before leaving home. Being early spring here everything is green, fruit trees in bloom, etc., and it is hard to get used to it in September, also it seems queer to hear people talk about their summer vacations at Christmas time.

We are located within a few minutes ride of the center of town by taxi or street car. The business section consists mostly of wooden buildings with here and there a modern one of eight or ten stories. Very much like the style of the older California buildings, similar to the section of Los Angeles north of Second or Third Streets on Main, Spring and Broadway. They have two or three fine public buildings.

Everyone lives in single bungalows or houses with a good-sized yard so the residence district scatters over a wide area. Houses are all on the order of the old style wooden California houses invariably with a corrugated iron roof and usually set up on foundations six or eight feet off the ground for coolness and to be dry. It gets very hot in summer from all accounts, also is some warmer in winter as they raise bananas, pineapples and papayas here. Out of town in the hills and valleys, except where cleared away for farms or a pasture, the country

(Continued on Page 47)

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Bei Anfragen und Bestellungen beziehen Sie sich bitte auf den American Cinematographer

W. E. On Furness Liner

C W BUNN general sales manager of Electrical Research Products, has announced installation of a Western Electric Sound System on the Furness liner "Monarch of Bermuda"

An unusual feature of the installation is that, for what is believed to be the first time in the history of steamship building, engineers cooperated with the designers in planning for a sound system installation The Western Electric engineers in London worked hand in glove with the designers so that space was provided for the sound system before the ship was built and the wiring was placed before the launching At the same time the bulkheads were drilled and the screws set in place for the mounting of the equipment later on

The 'Monarch of Bermuda' will be used by the Furness line in its regular Bermuda service

16 mm. Patents Company Plans to Issue Licenses

AS A holding company for patents on a new 16 mm recording device and a projector, Jones Research Sound Products, Inc, has been organized with E W Jones as president Hobart A Simpson is secretary and Thomas D Burhans treasurer

First recording equipment will be ready within 60 days The concern will issue licenses to build projectors as well as to record in studios and on trucks Recording runs at 36 feet per minute, it is stated, and a sound track .024 of an inch is used Volume and tone quality is equal to standard 35 mm sound-on-film, Jones claims

Talking Film Co. For Bogota

A COMPANY to produce talking pictures is being formed in Bogota, Colombia Senor Cuellar Chaves, the promoter, just back from Hollywood, states that he has the necessary staff and equipment and will bring them to Colombia as soon as the financing has been arranged It is believed here that he will experience difficulty in raising funds

One-Pound Sound Camera

ANDRE GOURRIANT, young French engineer and inventor, has patented a sound recording apparatus so light that it weighs but a pound The need for a motor truck on outdoor locations will, it is claimed, be done away with by this invention, which is said to register sound clearly without any interference

To the Photographic Craft
and the
Motion Picture Industry in general

Max Factor

wishes

A Prosperous 1932

◆

MAX FACTOR MAKE-UP STUDIOS

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HOLLYWOOD CALIFORNIA

American Record Corp. Has Unbreakable Disc

THE AMERICAN RECORD CORP, which has started production of records on 33⅓ r.p.m 10-inch discs for use by theatres as overtures and exit marches as well as when silent trailers are being run off, has developed an unbreakable record which will be introduced in the near future Fourteen recordings are now listed by American Record, including four of Lew White at the organ, four of Sam Lanin's Orchestra, three of Vic Irwin's Orchestra and two of Roy Smeck, wizard of the strings The company expects to release from 10 to 14 recordings a month

◆

Projected Background Anematography

(Continued from Page 121

performing in front of a transparent screen upon which a moving background picture is projected from the rear"

J S Withers in patent 234542, dated February 25, 1924 describes elaborate methods of making composite photographs in which miniatures, projected pictures, and actions are combined, the various parts being photographed simultaneously Various mirror arrangements are shown for combining the projected picture and the action "A method of producing kinematograph films consists of erecting in natural size only a portion of the object, namely, that in front of which characters move, and in employing for the remainder models of reduced size photographs, projected background diapositives or kinematograph pictures, the parts being photographed simultaneously or successively, the object by reflection, and the model either directly or by reflection, at suitably shaped or masked mirrors In place of a model a picture, photograph or an illuminated diapositive or kinematograph film may be projected from the rear upon a semi-transparent screen'

E H Gamble in a patent number 6768, dated March 19, 1912 shows a very interesting method of making composite photographs using colored lights with the proper blue, violet, and red filters

Other interesting patents are as follows-

19,823—Juhasz and F Haushofer—September 6, 1911—OPTICAL PROJECTION APPARATUS—Apparatuses for projecting kinematograph and like pictures wherein the light is first projected onto a translucent screen and is then reflected by a transparent mirror- The screen and the mirror are both arranged vertically and the latter is arranged so as to bisect or approximately to bisect the angle preferably a right angle between the screen and the single carrying a scenic background

15,008—W Hagedorn—June 28, 1911 Shows a method of projecting pictures on a translucent screen with appropriate figures in front

7344—H Blitz—March 28, 1913—OPTICAL PROJECTION APPARATUS—Screen apparatuses for giving an effect of relief to kinematograph pictures comprises a screen on which the pictures are projected without a back ground from a lantern so as to be viewed through an inclined transparent or semi-transparent mirror in which scenery forming a background for the picture is reflected The scene may be projected from a lantern onto a screen situated back of the scene The space between the mirror and the screen is darkened

5212—Thomas, F D—Febrary 28, 1914—shows a method of combining real and living action with a projected background to appear as one composite whole

Have You Ordered
YOUR CINEMATOGRAPHIC ANNUAL
Vol. 2?

..In the Realm of Sound..

Vertical Wax Recording

AN EPOCHAL advance in sound recording and reproducing was demonstrated last month to members of the Society of Motion Picture Engineers and the Institute of Radio Engineers, in the Engineering Societies auditorium by Halsey A Frederick, transmission instruments director of Bell Telephone Laboratories Using disc records cut by the vertical method, a new high power amplifier and latest types of loud speakers, Mr Frederick produced an extraordinarily faithful reproduction of organ, orchestral, and vocal music, which his audience could scarcely distinguish from the original in either quality or volume

Speaking also before the meeting, Leopold Stokowski, Director of the Philadelphia orchestra, explained the problems connected with recording music from the standpoint of the musician

The vertical method of recording on wax discs differs from the so-called lateral method which is standard practice in the phonograph and sound picture industries in that the groove instead of wavering back and forth along an otherwise spiral path is a true spiral whose depth varies in a perfect pattern of the sound waves which have been recorded Such a method was the original conception of Edison but lacking modern electrical technique it was superseded by the lateral method With the availability of microphones amplifiers, and other electrical adjuncts to modern recording the old method now finds itself in the forefront of progress Among reasons for its excellence is that the needle is no longer thrown from side to side by the vibrations, with the resulting over-travel and wear on the groove, but rather rides smoothly up and down A close fit of the reproducing point in the groove—a requisite of the old method—was secured by incorporating a certain amount of abrasive material into the disc which would soon wear the steel needle to an approximate fit This fit is not required in the new method and hence a permanent sapphire point is used in the reproducer with a resultant saving in weight of the steel needle and its clamping device A further saving in weight is effected by an electrical reproducer whose moving system consists only of the tiny sapphire point, a coil of flat wire about an eighth of an inch in diameter, and a bit of thin metal to hold the whole in alignment On account of its lightness, the moving element is able to follow vibrations up to 10,000 per second with entire fidelity

On account of the abrasive material embodied in the older records, the reproducing system was designed to eliminate from the output those frequencies above about 3 500 cycles, where "needle scratch" was especially conspicuous A new method of preparing the original wax for recording, and the use of a finer grained material for the ultimate commercial records make the new record extraordinarily free from this source of noise and thereby brings about a much greater range in volume from the level at which surface noise would intrude on the program to the point at which the moving parts would be overloaded Further increase in volume is enabled by the use of a vertical groove in which there is no danger, in the louder parts of the program, of the recording stylus overcutting into the adjoining groove

In copying from the original wax record, it has been the commercial practice to dust the wax with very finely powdered graphite The particles of graphite were still large enough to contribute to the surface noise so that method has been abandoned in favor of depositing a molecular film of gold thrown down by an electrical discharge in a vacuum On this gold film a layer of copper is electroplated and the whole is then backed up by a lead alloy Further operations of pressing the discs are carried out much as in the present process but the ultimate records are pressed in cellulose acetate which has a surface texture extremely fine

The power amplifier, which is the last of several stages of amplification, consists of two 1 000 watt vacuum tubes connected in push-pull Mr Frederick explained that although its full 2,000 watts could be drawn upon if necessary, the reason for the use of such large tubes was in order that they might be very lightly loaded With loud speakers responding to frequencies as high as 12,000 cycles the spurious tones produced by a heavily loaded vacuum tube are distressingly perceptible and for this reason none of the tubes in the amplifying system are worked at more than a small part of their rated capacity

◆

Pacent Develops Combination Recording, Reproducing Device

PACENT announces in Recordovox a new combination recording and reproducing device to work with any radio receiver and phonograph The attachment is for electrical reproduction of home records as well as the commercial and allows for the making of home records of voice, music or radio programs

◆

RCA In New York Church

SOUND motion pictures soon will be shown in the $4,000 000 Riverside Church, Riverside Drive and 122nd Street, New York City, of which Dr Harry Emerson Fosdick is minister and which is considered to be one of the most imposing structures in the world Negotiations have been completed between George J Heidt, business manager of Riverside Church and RCA Photophone, Inc , for the installation of a complete Special Size sound reproducing unit in the assembly hall level of the edifice which has a seating capacity of about 500

"We have purchased this equipment for entertainment and educational purposes," said Mr Heidt, in announcing the transaction 'Among other forms of entertainment we propose to present selected sound pictures to the children every Saturday afternoon Religious subjects also will be shown from time to time"

◆

A Novel Device

TECHNICIANS at RKO-Pathe recently figured out something unique in the line of camera "dollies" We all are familiar with the usual type on which is mounted a camera that can be wheeled about at will in following shots

Well, at RKO-Pathe they have worked out a 'dollie" on which is mounted the camera a microphone and one large, incandescent light This light makes possible the taking of closeups while the players and the camera are both in motion The device is said to save considerable time and expense for it saves set-ups that take so much valuable time The RKO-Pathe publicity department is responsible for the statement that this new device saved seventeen different set-ups in one big scene in the making of a recent picture

Laboratory Department

Conducted by **EMERY HUSE, A. S. C.**

Principles of Sensitometry and Their Practical Application

Part 9

IN THE DISCUSSION of intensity scale sensitometers various types of tablets were dealt with at some length. It was also pointed out that the motion picture industry makes use of photographic tablets in the timing of negatives for printing.

In dealing with either photographic or dyed gelatin tablets there is one thing which should be given some consideration. Reference is made to "color coefficient". Color coefficient may be defined as the factor by which the visual contrast in the negative is increased in the print due to the selective transmission of the negative silver deposits. If the negative deposits are neutral in color then the color coefficient is unity (1.0) because in this instance there is no increase in contrast in the print from such a negative. The color of the silver deposit in a photographic negative exerts a marked influence on the quality of the resulting prints. Negatives made with certain developers exhibit deposits of silver which are decidedly colored. They may be blue black, brown, or yellow, depending upon the chemical constituents of the developer used in the processing of the film. Of two negatives exhibiting differences in color, that of a color of higher wave lengths will produce, upon printing, a print of higher contrast. In other words, a negative with a yellowish deposit will give a higher print contrast than a negative with a blue black deposit. The reason for this can be determined after a consideration of the difference between the visibility function of the eye and the spectral sensitivity of the photographic printing material. It is quite evident then that in considering any type of tablet sensitometer it is important that its color coefficient be taken into consideration. Although two tablets may have the same visual density they may differ from each other photographically due to the selectivity of the deposits.

In the study of different developing agents measurements of the color coefficient factor has shown variations from approximately 1.03, which is fundamentally neutral, to values of 1.30 and higher. In the motion picture industry the average color coefficient is found to be in the neighborhood of 1.10 to 1.20. These figures are based upon the fact, as previously stated, that the color coefficient of a neutral deposit is unity.

Time Scale Instruments

In the consideration of time scale sensitometers such things as tablets and color coefficients can be relegated to the background. Time scale sensitometers are almost exclusively mechanical instruments which are capable of producing a series of exposures from a source of fixed intensity by a variation of the time factor. One of the earliest time scale sensitometers was designed by Hurter and Driffield in 1890 and these men with this instrument laid the foundations of modern sensitometry. They constructed their sensitometer so that the exposure time variations were given by a rotating sector disc similar to that shown in Figure 7. In this disc was cut a series of annular apertures decreasing in angular dimensions from the center outwards, the largest aperture being 180°, the next 90°, the next 45°, etc., each one being one-half of the angular length of the preceding opening. In the sector wheel used in their sensitometer nine steps were cut, thus giving a series of exposure times decreasing logarithmically by consecutive powers of two covering a range of 1 to 256 exposure units. Sensitometers of this type were for many years the standard instrument and it is only within relatively recent times that improved instruments have made their appearance. This sector wheel was housed in a light tight box at one end of which was the light source and behind the wheel, which was hand and, later, motor driven, was a slot for placing the photographic material to be exposed. The sector wheel used in the Hurter and Driffield sensitometer was rotated at relatively high angular velocity, in the neighborhood of 300 or 400 rpm. This subjected the photographic material to a series of intermittent flashes. Recent improvements in time scale sensitometers have done away with the intermittent exposure. It was assumed that the photographic plate would integrate these successive exposures and that the result would be equivalent to an exposure of which the time factor was equivalent to the sum of the times of the numerous flashes composing it. Photographic investigators found that the effect of intermittency introduced relatively large errors in sensitometric work and for this reason the present day types of time-scale sensitometers are of the non-intermittent, or continuous exposure, type.

Fig. 7

In our next article sensitometers of the non-intermittent type will be discussed.

◆

Mines Bureau Prepares Films On Auto and Allied Industries

THE United States Bureau of Mines, Department of Commerce, has prepared a series of educational motion pictures depicting the automotive and allied industries, with the cooperation of various manufacturing concerns.

The films are produced under the technical supervision of the staff of the bureau, the continuity being prepared in such a manner as to be entirely intelligible to the average layman. The films are loaned without charge and are used by many leading educational institutions, clubs, societies and like organizations.

What's What *in* Make-Up

● In the December issue Mr Max Factor, make-up expert discussed the basic principles of make-up, dealing with highlights and shadows, the nose the eyes and the mouth In this issue he continues — Editor's note

The Chin

This feature offers the fewest problems There are two characteristic types of chins—receding and protruding The protruding chin may be pointed or rounded To bring it into harmonious proportion with the other features, shadow with several shades darker than the ground tone, blending the edges into the complexion On round, protruding chins, apply shadow to center, spreading over entire area; on pointed chin, apply mostly on tip of point To build up the receding chin, high light the entire area of the chin by applying a much lighter shade than the ground tone of the make-up used.

Wrinkles

Wrinkles are creases in the skin showing the effects of age or the emotional experiences The professional method of applying wrinkles is the most practical one After the ground color has been applied, you locate the natural position of the wrinkles by distorting the face, forcing the wrinkles into them Then while you hold them fixed, mark them

On relaxing your face you have a pattern of the wrinkled expression you require With a dark red or brown lining color (sometimes it is convenient to use a dermatograph pencil), you draw over the lines of your pattern to give them more striking effect. To achieve greater accent you must high light every wrinkle

Colors suggested for high lights are Lining colors, Yellow No 11 and White, No 12 Colors for shadows or low lights are Lining colors, Dark Brown, No 2, Light Brown, No 3, Blue-grey, No 6 and Maroon, No 9 Black or Brown dermatograph pencils can be used conveniently

Crepe Hair

A braided hair material prepared for making beards, mustaches and eyebrows can be purchased by the yard, and comes in many shades For ordinary use, a yard will last practically a year

False Beards

For the average beard, a natural effect can be obtained if the crepe hair is built directly on the face Beards, sideburns and mustaches give the face a natural, mature expression The art of manipulating crepe hair will prove to be a great advantage in portraying many character parts The rules below, combined with practice, will give you a workable knowledge

1. When unbraided, the crepe hair is very curly and kinky It must be straightened before using First, moisten thoroughly Then, while damp, tie each end firmly with string Draw the hair out while it is taut and straight, stretching between two objects until it is dry It is suggested that the hair be prepared in this manner the night before it is to be used

2 When the hair is straight and dry, the quantity to be used should be combed This is done on a hair-worker's hackle, or it can be done with an ordinary comb Two or three shades of hair can be used in the same beard The hair can be stacked neatly within convenient reach to be applied

3 A thin coating of spirit gum is applied to the face where the hair normally grows The application of spirit gum is an important detail toward creating a natural looking hairline

4. Laying the hair in the direction in which it naturally grows is the most important detail It is a good idea to study a real bearded man and note in what direction the hair grows on different parts of the face Under the chin the hair grows toward the front, and on the sides grows down To imitate nature and to reproduce it as accurately as possible, every detail must be carefully observed

6 When all the necessary hair has been applied, press the hair to the face with a towel, holding it firmly a few seconds Do this to every section so that you are sure the hair sticks. Holding the ends of the hair in place with your fingers, comb out the loose hair very gently

7 Now the beard can be combed and brushed as a real beard It is then trimmed into any style with all the realism of a barber's art A pair of tweezers will come in handy to remove odd hairs that affect the smartness of the hair line

Mustache

To build a mustache, prepare the hair as described under the process for the beard With your thumb and index finger remove sufficient amount of hair from your prepared stack Trim ends on a bias After coating your upper lip with spirit gum in the shape of the desired mustache, apply the hair, beginning at the outer corner of the lip and shingling up toward the center. When all the hair is applied, press a towel against your mustache so it adheres firmly to the face. Hold it in place with your fingers and with a comb remove loose hair Then trim the mustache neatly with scissors You can brush the mustache lightly with spirit gum, to set the hairs in place, and shape with mustache wax This gives it a natural appearance

Unshaven Effect

A grey-blue or red-brown lining color is the shade to be used for the effect of an unshaven face The illusion-creating color is applied with a porous rubber sponge Smear the sponge well with the color you intend using, then stipple it over the ground tone of your complexion; this is done before powder is applied The effect of this illusion is created by stippling the lining colors in the normal area of the beard, creating a natural looking hair line This effect can also be produced with crepe hair Apply spirit gum over the entire area of the beard growth Cut the crepe hair into small bits of short hair and place over the spirit gum. being sure to distribute it evenly

Nose Putty

A soft, plastic material, sometimes called Nose Paste, used for many other purposes than that which its name implies, is effective for nose work For changing the contour of the nose or building up the nose into desired shape and for changing the chin it is excellent material

Nose paste can effect a complete disguise in make-up by changing the entire expression It is without a doubt the finest means to conceal your natural eyebrows The nose paste forms a hairless base and is completely concealed by the ground color of your make-up It is then powdered, making it possible to apply any type of eyebrow with a dermatograph pencil or crepe hair

Note —Before using nose putty it must be made pliable This is done by taking sufficient of it and kneading between the fingers until it is very soft Then it is ready to be used.

In the Art Director's Field

Motion Picture Sets*

by **HANS DREIER****

DESIGNING a motion picture set is illustrating a story The author of a novel describes, by means of words, the environment in which his characters act in order to establish in the reader a mood characteristic of the scene of action By this means he brings to the reader the proper atmosphere for the story

This is likewise the function of motion picture sets But while the writer has the world at his disposal and is limited only by his imagination, the designer of motion picture sets has to reckon with time space photographing, sound recording, and commercial economy

Reasons of practicability demand that motion picture sets be constructed of light-weight materials, which are made to appear solid and real by means of technical processes To the eye, and more so to the camera, flimsy structures on the sets appear to be real rooms or buildings, etc , of any desired elegance, dilapidation, or age They are first planned and constructed in the form of sketches or models, in order to be sure to obtain the desired appearance and to create the proper mood when finally presented on the screen to the audience in the theatre These are the ultimate objectives to which everything in the conception and construction must contribute

The materials of construction vary according to the effects desired Flats of standard sizes are used for sets that represent rooms or buildings having finished surfaces They are covered with veneer or as acoustical requirements demand, with a soft composition board that prevents reverberation When the surfaces are to appear as if made of brick, stone, or rock, casts of the real materials are made and the reproductions are applied to the set Plaster-coated wallboard and wood is used frequently for panels The painting, which is of the greatest importance in producing the final character of the set, provides the finishing touch

After the set has been conceived according to the purpose of the story and the intended mood, it is laid out according to the camera angles and the action which is to take place in it The lens of the camera determines the horizontal and vertical dimensions of the set, and angles made of celluloid are used to fix these dimensions for all camera line-ups necessary to cover the action When such points are settled, the designer begins work on the drawings, which are very much like those drawn by architects Places for lights necessary to illuminate the set for photographing it must be provided, and, in consideration of the process of recording the sound, acoustic difficulties must be avoided Finally, the proper furniture and properties are located and the set is ready for use

Time and space are of great importance in constructing sets, and are very vital economic items to be considered For this reason a great number of photographic and scenic "tricks" have been developed These may be grouped under two main headings (a) the miniature processes, and (b) the processes employing transparencies The latter is a photographic process for providing moving backgrounds The actors are later superimposed on the background by a chemical process This method avoids the necessity of constructing a large set The miniature, however is designed and constructed

If a given part of a set is duplicated on a smaller scale and the replica is placed between the camera lens and the original set, preserving the original lines of sight emanating from the camera, the photograph of the portion in miniature will coincide exactly with that of the original set, and it will not be necessary to use the large set at all This results from the fact that two-dimensional photography does not register the physical distance between the actual set and the part made in miniature Fig 1 illustrates the principle

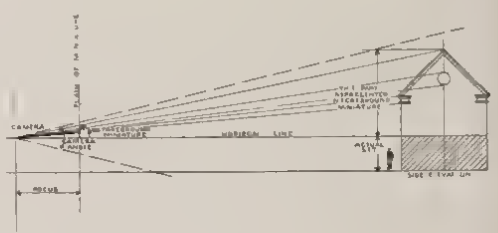

Fig 1

In order to carry focus, the miniature in the foreground must be placed at a certain distance from the camera lens This distance determines the scale to be employed Theoretically, an indefinite number of scales are possible but economic requirements make it necessary to choose a scale which will bring the focal plane as close to the camera as possible

The miniature may be an actual construction, it may be simply a miniature scene painted on glass, or it may involve a combination of both processes The technic of using miniatures in this manner, the construction, matching of lights and shadows and of distances, is highly developed, and the process can be made to provide perfect illusions of great depth and height

The designer, when illustrating the background of a story, must explain his ideas by means of drawings in which he represents the desired mood by indicating the apparent heights and the camera angle, balancing the proportions, lights, and shadows in the desired manner But a sketch shows only one angle, the rest must be explained by a floor plan It is often difficult for those unfamiliar with the process to obtain a clear idea of the final appearance of the set from all the angles at which the action is to be viewed A model does not easily influence a mood or create an atmosphere because the light effects and the miniature furniture are not convincing and the small scale of the set gives one the feeling of looking at a doll-house The sketch always provides the best approach to an appreciation of the set as an illustrating background, while the model is indispensable where complicated ground plans, combinations of several sets, several floor levels, and action based upon these are required

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* Presented in the Symposium on Studio Practices at the Spring 1931 Meeting at Hollywood Calif and printed through courtesy of S M P E Journal

** Paramount Publix Corp , Hollywood Calif

Photographing Hoover Dam

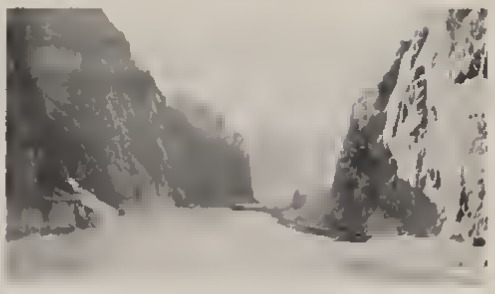
(Continued from Page 15)

project, will be submerged in water more than 200 feet deep The purpose of the project is flood control and general river regulation, irrigation, silt control, power development and domestic water supply The total cost of $165,000,000 will be divided as follows dam and reservoir $70,600,000; power develoomcnt $38,200,000; All-American Canal $38,500,000 The height of the dam will be 730 feet above foundation rock It will back up the water for a distance of 115 miles, and will vary from several hundred feet to eight miles in width, forming a lake with water sufficient to cover the state of Connecticut to a depth of ten feet

Mr De Vol at the Hoover Dam site.

The power plant, estimated annual income from which is $6,550,000, will be capable of developing 1,000,000 horsepower through the installation of twelve 85,000 horsepower hydraulic turbines

The All-American Canal will connect with the Colorado river some distance below the dam, beginning with a maximum section of about 200 feet in width at the water surface, 134 feet bottom width and a depth of twenty-two feet From a length of seventy-five miles it will be reduced as tributaries leading into Coachella and Imperial valleys, and finally will lead into the Metropolitan Water District of Southern California, some 300 miles distance from the Colorado More than 65,000 acres of Imperial Valley's present irrigable area can be irrigated by this canal, while Coachella Valley near Indio, with an irrigable area of 72,000 acres, will be served by one of its tributaries According to preliminary estimates, approximately 2,000,000 acres of irrigable land below Boulder Canyon reservoir will receive the benefits of this gigantic project



Where the Dam will be built

The progressive motion picture records of operations which Mr De Vol will take periodically, will first be submitted for approval to representatives of the project

Illustrated accounts by Mr De Vol of the project's progress will appear from time to time in the American Cinematographer

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All Electric Amplifier Offered By Radiart Corp.

A FULL RANGE all-electric theatre amplifier of rugged construction and of simplified unit design that is said to have the highs and lows, and plenty of volume, is being marketed by the Radiart Corp., manufacturers of quality sound equipment and transformers Among outstanding features claimed for it are the following

The device is built in acoustic compensator for meeting any unusual acoustic conditions in theatres By an advanced design circuit incorporating the '45 tube in coupling to the 2-'50 tubes tremendous output is obtained without hiss or tube rush, with equally excellent quality at full, half, or low volume Ample gain is available at all operating conditions such as weak photo cell, dark film, or other unusual conditions All overtones are maintained With the full range frequency reproduction all lows and highs are included to give necessary overtones for natural sound reproduction of both music and speech

With this amplifier it is not necessary to use outside matching transformers The amplifier has output impedances of 9 ohms, 16 ohms, or 500 ohms, so that connection can be made directly to all popular speakers without outside matching transformer Connections are available for a 4000 ohm high impedance monitor speaker This winding is separate and will not affect the volume or fidelity of the output to the main theatre speakers, the company declares

BUSINESS RELATIONS ARE SATISFACTORY ONLY WHEN ALL PARTIES INTERESTED ARE BENEFITTED

Agfa

extends

Season's Greetings

to the Motion Picture Industry, and takes this opportunity to hope that their products and service may contribute substantially toward the realization of a mutually prosperous New Year.

AGFA RAW FILM CORPORATION

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Amateur Movie Making

by **WILLIAM STULL, A.S.C.**

ONE of the most trying situations that can afflict a writer is that of being incapacitated just before the "deadline" of his publication, and being, therefore, unable to perform his usual services to publishers and readers. Therefore, when this happened to me last month, I was greatly relieved to learn of the highly competent way in which my friend Hatto Tappenbeck, A.S.C., had stepped into the breach for me. Not only did he provide an interesting article for this department, but a practical one, as well. No cinematographer—professional or amateur—can afford to waste film at any time; yet he must constantly carry on experiments with new emulsions, filters, etc. if he is to keep himself up to date in his craft. As Mr. Tappenbeck suggests, the various miniature "still" cameras using short lengths of 35 mm. film offer an ideal means for doing this. The cost is small, the results are excellent, and—most important of all—the photochemical conditions are identical for both the still and cine cameras. This last is true whether one uses 16 mm. or 35 mm. cinema apparatus; for the emulsions coated on du-Pont's 16 mm. and 35 mm. negative stock are identical, and the Eastman 16 mm. reversal emulsions likewise correspond to those on their 35 mm. negative stock, although they are chemically slightly different, thanks to the requirements of the reversal process. To all practical purposes, however, 16 mm. and 35 mm. emulsions of the same manufacture are identical. For a more detailed and technical discussion of the matter, I recommend "Making Tests with a Small Camera" by Jackson Rose, A.S.C., which appears in Volume Two of the **Cinematographic Annual**, just published.

Saving Film with Scripts

But this business of saving film is quite as important when you are actually using your cine camera as when making filter, film, or exposure tests. Or, to put it differently, it is just as important to make every foot of film used count as it is to avoid using unnecessary footage. This is particularly important to those who are producing pictures to be entered in the **American Cinematographer's** contest.

There are many ways of doing this, all of them must be known and used if the completed picture is to be successful. There are scores of details of direction and cinematography—to say nothing of editing—which make for conciseness in the finished production, but first of all comes thorough preparation of the story before it is filmed.

Every film has a story to tell. It may be a dramatic film, in which case the story is self-evident. It may be a travelogue, a documentary film, or a family record, in which cases the story is not so obvious, but still—**there must be a story.** In any event, no matter what type of picture you are making, or whether it is for the contest or for your own pleasure, you will attain the fullest measure of success only if you know in advance what you are going to shoot, prepare a definite plan of action before you start to photograph, and adhere to that plan during the actual making of your picture.

It is possible to do this with only a clear mental picture of your completed film; but it is far wiser to have some sort of a written outline to work with. Otherwise, you are trusting far too much to chance. You will probably get a number of individually effective scenes—but they will probably be just that: individual scenes, not a coherent picture. If, on the other hand, you take the time to plan your work in detail before you shoot, you can hardly help making a concise, coherent picture. And this is true whether your picture is a drama, a travelogue, or just a family record.

How To Do It

The first step is to have your story. This can be almost anything you desire: a dramatic plot (your own or taken from a novel or short story), or a mere outline of what you propose to do, if your film is a travelogue or family record. This story should be written down in synopsis form. It is the basis of any picture, of any type, whether professional or amateur. It is not written in scenario form—divided into scenes—nor in rhetorical story form; it is merely an outline of what is to happen, with few, if any of the details more than barely indicated. But it is a vitally important part of your preparation. Speaking of this synopsis, Clara Beranger, the well-known scenarist, said in a lecture given a few years ago:

"There is a distinction in writing for the screen and writing for the camera. Certain people who can visualize how a thing will look on the screen cannot put it in scenario form.

'First we prepare what is called the 'treatment'—the first long synopsis. This is for the screen and not for the camera. It hasn't any of the technical details in it. It is a straight dramatic synopsis, but it gives some of the atmosphere, the setting, and a delineation of the characters. From this synopsis the director, and frequently the producer or supervisor, can tell whether the story will make a good picture."

After this synopsis or 'treatment' has been completed, you are ready to begin to write for the camera—in other words, to write your script or scenario. In professional practice, you begin with a fairly rough script, and then, through long and sometimes painful consultations with the director, art director, technical director, director of photography, and director of special effects (not to mention the various financial gentlemen), you slowly evolve the final shooting script. In amateur practice, however, this evolution is simpler, because, unless it is a club production, you are likely to be director, cinematographer, and art-director as well as scenarist. Therefore, your first script can well be your final one, unless you find revisions necessary for practical reasons.

Probably the simplest method of writing this script is to begin by blocking your synopsis into sequences—groups of scenes embodying related action, and taking place on a single location. Then take each of these sequences, and reduce it to the scenes of which it is composed. Begin with the basic long-shots, then figure out just where the action demands closer scenes—medium-shots and close-ups. Then find where you need titles, and indicate their places, and approximate wording. Do the same for inserts, such as letters, telegrams, etc. Then assemble all these in your final script, in their proper order, with the action taking place in each scene well sketched out, and camera-angles, etc. clearly indicated. Give each scene a number, for reference not only during production, but in editing. And there your script is complete.

Writing such a scenario is not difficult in itself, but writing one that can be easily and efficiently picturized, and that will make an interesting picture, is. My personal advice would be not to attempt to write your own scenarios at first, but rather to use some of those already available for amateur use until you have become accustomed to using a script to shoot from, and to thinking in terms of camera-action. Then you will be ready to try your own hand at scenario writing. If you try to do so before you have this experience, you are almost sure to fall into some of the many pitfalls lurking to entrap you. The first of these (and the worst) is that you will write a more

(Continued on Page 46)

Lens Problems and Properties

by **HATTO TAPPENBECK, A. S. C.**

DURING these winter evenings, when we are staying at home more out of necessity than from choice, we can now enjoy over again the happy days we spent in the outdoors and the summer s sunshine Our home movie projector brings those precious memories back to us Reclining in a comfortable chair and amidst friends and family we are reviewing our own cinematographic efforts and enjoying the films which our visitors brought over Scene after scene is projected Interesting shots to the intimate circle of spectators!

Some of the scenes are discussed for their photographic merits, some for their unusual angle or effect. New plans are made for the coming year Various camera problems are brought up during these meetings, but least of all the topics that of lenses, is touched

And yet, our photography differs a little from that of our friends Some shots seem to be more pleasing than others A comparison of long shots and close-ups shows that the handling of the scenics is superior in our pictures while the others apparently have more luck with their close-ups We do not believe it is luck and try to find out which methods they use, that make their scenes better than ours We only come to the conclusion that the same means and skill are employed We all have cameras of a reputable make Naturally you assume that you get a good lens with it There is no doubt that you do. But there exists a great variety of GOOD lenses, each intended for a specific purpose It is perhaps the most essential factor in buying a camera, but this important item is the least considered of any

The manufacture of lenses is a very scientific, intricate, and delicate work, in which various problems have to be solved according to the most desired specifications It is not possible to incorporate ALL good qualities in ONE lens, because some of them are contradictory as we will see Therefore a sacrifice has to be made one way or another This is one of the reasons for the difference in the leading makes of lenses A set of lenses with different properties is necessary for covering all phases of cinematography correctly However, this statement should not worry the person who has only one lens at his disposal If that lens is properly chosen—and that is generally the case with the lens recommended by the manufacturer of the camera—it will render very satisfactory all around service

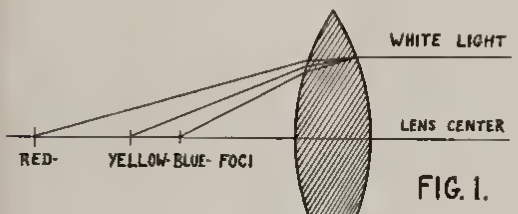


FIG. 1.

The fixed or movable focus of the lens is frequently the only feature considered at the time of the purchase of a cine camera, and the issue is usually decided by the price The former requires less effort and knowledge in handling It gives good service, but has its limitations The better lens does everything the cheaper one will do, and in addition more on special occasions Let us see why this is, and what other properties, not so obvious, are built into the various lenses!

Nearly all lenses supplied with the better grade of cameras are achromatic, i e corrected for color The colors send out rays of different wavelength The optical nerves in our eye in turn respond to these wavelengths and produce the color sensation Automatically the eye takes care of the correct focus This is not the case if the light rays are conducted through a single lens Then the different colors will focus each on their own particular plane as is shown in Fig 1 The blue rays of the spectrum meet closer behind the lens than the yellow and red ones

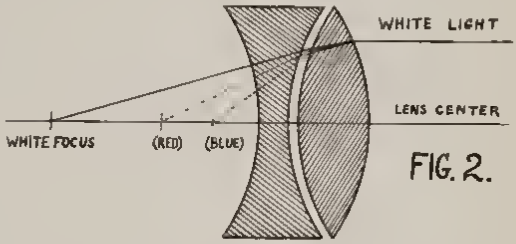


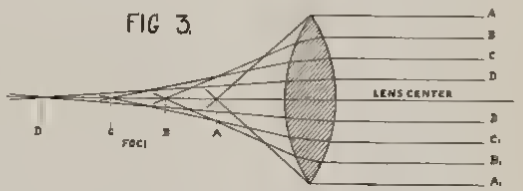
FIG. 2.

If we focus an image on a ground glass we make use of the yellow rays, while the emulsion of the regular orthochromatic film is particularly sensitive in the blues and therefore requires a little shorter distance to form a sharp picture Thus the two images do not correspond This is corrected in the lens by using two pieces of glass ground in the way indicated in Fig 2 The two lenses are made of crown- and flint-glass respectively, whose properties compensate the various color rays and in this way effect the achromatic- or color-correction

From the above it is clear that by using the same lens with orthochromatic or panchromatic film a slight difference will result in the focus of the negative, which may be very pleasing at times due to the soft diffusion it creates

At the same time in such lenses care is taken of the spherical aberration, which is the tendency of rays of the same color

FIG 3.



to come to a different focus when passing through various parts of a lens Those rays nearer the center of the lens will converge a little further on the axis than those passing nearer the edge, Fig 3 Stopping down the lens will partly correct this error by increasing the depth of focus This is done, however, at the expense of the speed of the lens

The aberrations mentioned are most likely to be observed in cameras with lenses of the fixed focus type Aside from the spherical error the single lens has the very unpleasant property of distorting the straight lines which may be near the sides of your picture It is particularly noticeable where high build-

(Continued on Page 38)

Home Lighting

by **JACKSON J. ROSE, A.S.C.**

● This is the first of a series of practical articles written expressly for the amateur readers of this magazine by a group of the best known professional motion picture cameramen in Hollywood Mr Rose the author of the first article has been photographing big productions for the past twenty years--The Editor

THE HOLIDAY season is past, but the weather still keeps you indoors at times when you would like to test the new cine equipment you found among your Christmas gifts This is a good time to start right in the home and make good that New Year's resolution ' To produce better pictures during the coming months ' Many of you have undoubtedly received some new lighting equipment, such as the Bell & Howell incandescent lights, the "Little sunny twin ' arc light of Westphalen, the Halldorson home portrait lamp, or the Testrite electric equipment. These and many other makes have been designed purposely for use in the private home

In this article the writer will give some valuable hints on lighting as it is used in professional work in the Hollywood movie studios, and which may be applied without difficulty to the cine work in your own house Lighting a picture set is really not such a cumbersome task as it may appear at first sight Not a great deal of work is required, and with very little equipment some attractive results may be had Two or three light units of about 500 watts each and perhaps one or two stereoptican globes of 250 watts to replace those lamps used in the regular lighting fixtures is all that is necessary for the average home movie The written instructions in lighting can only guide you in your efforts, but here as in every other work skill comes with practice!

When using electric lights, care should be taken not to overload the house circuit A 500 watt lighting unit uses about as much current as a six pound flatiron or the average one coil radiant electric heater It is safe to figure one ampere per one hundred watts That allows five to six light units on a circuit which is protected by 30 amps fuses Assuming that we are photographing at the normal camera speed of sixteen pictures per second we need a good lens with an opening of at least F 3.5 The new supersensitive panchromatic film eliminates any difficulty in getting enough exposure and good results in the home

An interesting scene may be photographed when some friends drop in for a game of bridge The whole group presents an attractive picture when taken from an angle diagonally across the table Two of the players are sitting full face towards the camera while the others appear in profile The lights are generally already concentrated on the group around the card table All we have to do is to accentuate this natural lighting by replacing the globes in the regular fixtures with stronger ones and by adding a little front- or back-light as the case may require If there is a light directly above the center of the card table, we have a splendid means of creating an artistic effect by putting the principal light source there

Many homes have a beautiful fireplace in the living room This gives a splendid opportunity for a little scene as well as artistic composition The chief source of light should come from the fireplace itself, augmented by some light unit near it or hidden behind the logs, if the fire is not actually going In this one case only the light should be placed low In all others the light should come slightly from above the subject, the most natural way of lighting In addition to the main source of illumination some front light near the camera should always be added This eliminates too great a contrast of the picture by toning down the shadows

For a shot of a person sitting in a comfortable chair under a reading lamp, a 250 watt globe assisted by some light coming from the direction of the camera is all that is required Short flashes of such and similar pictures which show each member of the family at their usual occupations or hobby make up the most interesting reel which can be mailed to friends and relations

A lively scene is presented in "The family at the dinner table," be it on an ordinary day or at the special occasion of baby's birthday Put some stronger lights in the regular fixtures, add a unit in the back or in front wherever the shadows need some relief, and you are ready Never use more than 250 watts in the ordinary lamps as a higher wattage will result in serious damage The heat from those concentrated filaments is too great for them.

Painstaking care should always be taken that no direct rays from the lights reach the lens The lamps are placed in such a way that they are hidden from the camera or so far outside the picture angle, that it is possible to put a proper shield in between the light and the lens Only very small globes of low wattage can be photographed without causing halation of the film or a flare of the lens

Some of the most delightful pictures can be gotten of young children in their everyday surroundings. They may be playing "school ' with neighbor kids or teaching their dolls Or they play "house," or, if they are a little older, change the living room into their home state or the whole U S A which is crossed by a network of rails. The trains are running from the East to the West, from one corner of the room to another, with stops at several "towns" in between Soon the visiting uncle or friend of the family gets interested and enjoys it just as much as the youngsters There and then is your chance to get some very interesting shots with your cine camera

And don't forget the pets of the household! They are part of the family and can be used easily to provide the comedy relief They make apt pupils in the school scenes, or the cat or dog is investigating the workings of the locomotive, causing the train to derail

For lighting all these shots not a great deal of experience or skill is necessary The lights should be placed so as to strengthen the regular ones rather than using them to create special effects The more natural the source of

Making a Home Movie

the light looks, the better the picture will be! Always shoot the interiors with a wide open lens In lighting a scene in your home do not attempt to light up the room in every detail into the remotest corners Concentrate the light chiefly on the subjects of importance Too much detail is very distracting In fact, if some of them are left to our imagination, we create in our mind that warm, homey atmosphere which is so desirable in our pictures

One of the most interesting phases of indoor cinematography is undoubtedly the photographing of portraits, especially in semi-close-ups and close-ups In order to make a successful portrait of a person, it is a good plan to spend some time in careful study of the characteristics of the subject itself Upon that preliminary work the professional cinematographer bases the secret of getting fine and natural results on the screen Once we have formed an idea as to what the subject should look like in the film, we treat it according to its individual requirements Particular attention is paid to the face, hair, and eyes The lights are adjusted to eye level except in the case of blue ones, when it is necessary to raise the lamps above the pupil of the eye to avoid reflexion That helps to bring out the pupil which otherwise becomes so light and faded that it loses all expression

Jackson J. Rose

In the case of deep sunk eyes the lights are lowered so as to avoid the harsh shadows under the eyebrows In a like manner low lights are essential for a person with prominent cheekbones That takes away the shadow which tends to bring them out. If the subject has a short nose, the camera is raised a little or the head of the person is tilted a trifle downward Also too strong a lighting should be avoided here This makes the nose appear longer We reverse the process where the nose is too long in proportion to the other features of the face Lower, but do not tilt the camera, shooting slightly up at the person s nostrils, in case the nose needs to be somewhat fore-shortened This procedure is merely an aid to photography and should not be exaggerated.

As a remedy for a double chin from a camera standpoint the subject should lift its head slightly, thus getting rid of most of the undesired chin Then with the help of a little darker makeup, which makes the double chin look like a natural shadow, the defect is toned down. A low camera set-up and a strong illumination do the rest, eliminating all that is not desired

This leads us to the subject of make-up with which every cameraman should be familiar It is advisable to use make-up for the best results in cinematography It does not require such a deep study and long practice as generally supposed If a few directions are strictly followed, the art of putting on a make-up correctly is not so difficult and may be mastered in half an hour

The principal object of make-up is to eliminate defects and blemishes of the skin and face and to enhance the features, so that when filmed they are in correct proportion Photographically everything is produced in gray shades, ranging from black as the one extreme to white as the other Make-up is used to help out the camera art and to assist nature to procure the correct tone qualities, be it lighter or darker as the case may be Actresses always use make-up before the camera It not only aids their beauty or character part, but simplifies the lighting problem for the cinematographer During the shooting of a big production, which often requires weeks or even months, many occasions arise, where it would be impossible to photograph the star just the same all the way through, if it

(Continued on Page 37)

Photographed without make-up.

Photographed with make-up.

Out Front . . .

AGAIN the Camera Pictorialists of Los Angeles have produced a photographic annual foremost of its kind. THE PICTORIALIST for 1932 is every bit a worthy successor to its line. One hundred plates reproduce the best prints submitted to the 15th International Salon. THE PICTORIALIST presents the finest work of photo-pictorialists throughout the world. A beautiful collection of prints printed and engraved in the most exacting manner, bound in stiff boards, cloth back and silver foil sides.

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Bei Anfragen und Bestellungen beziehen Sie sich bitte auf den American Cinematographer

Home Lighting

(Continued from Page 35)

were not for the make-up With its help the identical photographic tone and quality is maintained throughout the picture, whether the actress be tired from the hard work and long hours on the set, or perhaps be a little more tanned from the sun and wind on the beach

A careful comparison of the accompanying still pictures points out the improvements which may be obtained by using a little makeup A deeper shade was applied over the eyes in order to emphasize the difference in color tone between the eye and the cheek An eyebrow—or dermatograph-pencil was used to fill in the vacancies between the single hairs of the eyebrows The eyelashes are accentuated with some mascara and the outline of the nose has been strengthened The skin-tone value of the face which loses its depth in the original, shows a great improvement, and the proper color tone of the make-up brings out the modeling and separation of the chin and the neck, which blend more or less together in the original

In most instances make-up tends to destroy the natural character lines so pronounced in the wrinkled faces of older people and many times also to be found with young children Therefore, in such cases the results will be better photographically, if the camera shoots them as they naturally appear The eyebrows and lips on children frequently are so light that we have to resort to eyebrow pencil or liprouge in order to get a better definition

Make-up should be applied very smoothly and with great care to the face as the camera detects and magnifies every little detail It has been compared to the art of retouching photographs, and constitutes the only medium with which we can correct in a practical though limited way some of the defects in a motion picture film This has to be done before the shooting, as it is a physical impossibility to retouch the finished motion picture negative or print with its thousands of small individual images

No rouge is dabbed on the cheeks, because red has the tendency to photograph dark The most widely used make-up in the American motion picture industry is that put up by Max Factor in Hollywood This firm is in constant touch with the photographic progress in the motion picture art and keeps its products up to date in accordance with the requirements of the industry Their make-up is numbered 21 to 29 for the use with super-sensitive panchromatic film, and this is equally well adapted to the older orthochromatic stock

In your individual close-ups do not place light objects too near or behind the person They distract the attention from the subject proper An even background of a neutral dark color is most desirable. The use of a strong backlight to outline the figure or head will enhance the artistic appearance of the portrait Further improvements can be obtained by replacing the regular lens with a long focus lens, which narrows the picture angle If the subject is far enough away from the wall and kept in sharp focus at all times, such a lens will help quite a bit to diffuse the background and make it less conspicuous and distracting It is understood that the lens then has to be used at its widest possible aperture

Contrasting colors, such as black and white, should be avoided in the person's dress Darker colors of medium value are easier handled than the very light ones There is little difference in the effect arc-lights or incandescents have on the various color shades Some of the lights have a little more reflecting power However, not every color reproduces the same tone quality through the medium of the camera as we see it with our eyes This is particularly true in regard to the yellow and the red parts of the spectrum, to which we are far more sensitive than the film

The art in lighting, as we have seen, consists of accentuating the natural light sources, but should not be an attempt to light up the living quarters in the home like the throne-room in a palace A bit of general illumination is a necessity if we want to avoid too great a harshness in the tone gradations of our picture Let the light come from the windows if there are some in your scene, or from the lamps that are included in your picture When the door leading to the outside or into a supposedly brilliantly lit room or hallway opens the light should stream in from there as coming from the natural source The principal subject or action on which the attention of the spectator is to be focused should also receive the greatest amount of light This method conforms with the one used by the professional cinematographer in lighting his picture sets

If you have daylight coming into the room, make all the use of it you can, and assist nature by filling in with your artificial lights wherever required to relieve the strong contrasts Cameramen have done the same thing all along The old theory that artificial lights and daylight won't mix has been disproved by years of actual studio experience The natural light is hard light which produces strong contrasts and tends to give a sharp outline in black and white Artificial light is much softer due to the fact that it radiates from many different and less concentrated sources The arclight comes nearest to the daylight in regard to photographic quality and value

Orthochromatic film being more sensitive to daylight and arclights can be used to advantage in some cases while panchromatic film, especially the supersensitive, is much more adapted to the incandescent lighting In reality the supersensitive panchromatic film was originally developed for just that very purpose and is now used exclusively in studio work As far as the orthochromatic film is concerned do not expect too much from it with incandescent lamps These emit a decided yellow light to which only the panchromatic emulsion is highly sensitive The ultraviolet and blue rays of the spectrum take up over eighty percent of the sensitiveness of the ortho film The other fifteen or twenty percent is divided over all the other colors This is the reason for so many disappointments, when orthochromatic film is used with the modern incandescent lighting equipment If you have not yet tried the new supersensitive panchromatic film there are still many pleasant surprises in store for you in regard to its greater speed and excellent quality

◆

A Message To The Picture Industry

(Continued from Page 17)

If we do so, we shall all reap our rewards—we shall be repaid many times over for our efforts and our temporary sacrifices

The American Society of Cinematographers is proud to offer this plan to the industry which has given so much to its members, and has made its own existence possible It invites the whole-hearted cooperation of the rest of the industry, for the sake of the industry as a whole, and for the sake of every individual in the industry We firmly believe that only as the body is sound can any member thereof be healthy Therefore, it behooves every one of us to look first to the security of the whole, knowing that his individual interests will in consequence be made secure

DON'T FORGET TO ORDER YOUR CINEMATOGRAPHIC ANNUAL NOW

Lens Problems and Properties

(Continued from Page 33)

ings, light poles, or tall trees are too close to the margin The effect is due to the tapering of the glass from the middle towards the outside of the lens The straight lines in the original have a tendency to curve inward if a diaphragm stop is used behind the lens, and outward if it is in front

Already in the earlier days of photography all these defects could be overcome with more or less success But, not until new kinds of glass for lens making were introduced could the fault of astigmatism be removed Astigmatism is well known to many of us who have to wear glasses It constitutes the inability of the lens of our eyes to bring sharply into focus horizontal and vertical lines at the same time The result is that we see parts of the picture sharp and others blurred The identical thing happens when lenses which are not corrected for astigmatism, i e which are not anastigmats, are used for photographic purposes The first suitable glass for correcting this fault was produced at the well-known glassworks of Carl Zeiss in Jena Since then glass of that particular and many other different properties for all kinds of optical purposes is manufactured in the United States as well

As a result of this discovery lenses with greater aperture were rapidly developed New combinations of the old and new lenses were found to take care of the correction of almost any objectionable error The number of glasses combined in good lenses varies from one to eight or ten Some of them are cemented together into units, or they form loose combinations, as the manufacturer sees fit Their properties and light strength correspond to their intended purposes, too numerous to mention here in detail However, once you know what you demand from your lens, it will not be difficult to find a suitable one among the many hundred makes which are manufactured

The most convenient lens for the average work with a 16 mm camera is a 25 mm or one inch lens It covers approximately an angle of thirty degrees, and corresponds to the two inch lens used for studio work on standard film For close-ups and portraits a longer focus lens is to be preferred, because it gives less distortion for the same size of image Telephoto lenses for shots of distant objects, wide-angle lenses, which come in handy where there is not space enough to take the camera back sufficiently to cover the whole width of the room or height of the building, a portrait lens, which allows the shooting of a large head with a minimum of distortion, a soft focus lens which gives a pleasing roundness to the picture, are some of the accessories that are no longer the sole property of the professional cinematographer, but constitute part of an up to date 16 mm outfit

Such an assortment of lenses is quite an expensive proposition for the average 16 mm enthusiast But a good set of supplementary lenses or attachments, which are used in conjunction with the regular one inch lens, can be had at much lower cost They come separately or in sets and consist of single converging or diverging glasses which may be fastened to the front of the lens by means of a special holder, springs, or clips In most cases they are not fully corrected, and some allowance should be made for that

In the same line with these lens attachments come the diffusing disks, fog filters, and other ray filters for cutting distant haze, producing night-effects in the daytime, and correcting various colors according to the results you may be striving for These are put in front of the lens in a similar manner as the supplementary lenses, perhaps you can use the same arrangement in both cases

Quite often you will be able to find out from the manufacturer's circular or instruction book what the properties of the lens in your camera are, and what photographic possibilities you may realize with it Otherwise you can test the lens yourself for its good and bad qualities and mechanical defects The latter results always in poor definition If you are troubled with that the lens may be badly centered Poor workmanship or an accident or fall of the camera may be the cause of it

In cleaning your lenses you cannot be too careful They are apt to be scratched very easily, as the high percentage of lead it contains makes the glass soft You should also take great care to put the different elements back in the same position they were in originally A little speck of dirt keeps them too far apart, or they may be screwed down too tight, which puts quite a strain on the glass This not only blurs the image, but may cause the glass to crack or chip A damaged lens is much more subject to flare and is liable to put a circular pattern on the negative Bubbles may be found in all good lenses They cannot be avoided even in the best glass, and have no bearing on the quality of the lens

Lenses, particularly those with multiple cemented units should never be taken apart The balsam which is used to connect the elements of these units is very susceptible to moisture This would loosen the cement and separate the glasses, thus requiring the lens to be sent to the manufacturer

The checking of the focus of your lens can be done with a good magnifier on the latest negative you have taken This will show you exactly at what distance from the camera you had focussed A comparison with the lens scale will answer the question if the markings are correct or if you have a back- or front-focus The correction can be made correspondingly by changing the mark on the mount

◆

Filmo Contest

LEADING Bell & Howell dealers are cooperating in a nation-wide camera name and slogan contest in connection with the Filmo 75 camera, $10,000 in Filmo equipment being offered for prizes

Each cooperating dealer first of all stages a local prize contest He puts on a window display featuring twelve Field Model Filmo 75 cameras in as many different finishes The person who submits the best name for any one of nine designated finishes together with the best slogan to accompany it receives direct from the dealer as a local prize his choice of the twelve displayed cameras The local contests generally continue for a week or ten days, and the opening and closing dates are fixed by the dealers conducting them

The names and slogans submitted by the winners of the various local contests are transmitted to the Bell & Howell Company to compete in a national grand prize contest for a Filmo Model J Projector This contest closes Jan 31, and the final prize award will be announced Feb 10

In New York City within an hour after Willoughbys opened their local contest, over 500 persons had visited the store to see the display of cameras in the various colored finishes and had entered the contest Similar interest is reported by dealers the country over.

Anyone can participate in the contest except officers and employees of the Bell & Howell Company or its dealers and their employees No purchases of any sort are required as a condition for entering Readers interested in competing should consult their local Bell & Howell dealer

◆

Artificial Sound

A METHOD of producing "sound out of nothing" by drawing and photographing a sound track is said to have been perfected, after many years' experiments, by Rudolph Pfenniger, of Emelka The sound track along the side of the film is artificially drawn and then photographed, the results being similar to those of the sound recording apparatus This method will be employed in the Emelka sound short "Die Tonende Handschrift" ("The Sounding Handwriting")

YOUR OPPORTUNITY!

The AMERICAN CINEMATOGRAPHER now offers the greatest opportunity ever given the AMATEUR MOVIE MAKER to win recognition and cash. ¶ A total of **$1,000.00** in **CASH** prizes is offered by this magazine to the winners of the Amateur Movie Making Contest announced in the October issue. This contest is sponsored by the American Society of Cinematographers, an organization composed of the world's leading professional motion picture cameramen. If you want to win recognition, as well as cash, read the rules below and send your entry :: :: :: :: :: ::

COMPLETE RULES OF THE AMATEUR MOVIE MAKING CONTEST

The American Cinematographer will present a prize of $500 00 for what its judges consider the best 16 millimeter picture submitted in this contest $250 00 will be given as second prize, $150 00 as third prize, and $100 00 as fourth prize, a total of $1000 00 in prizes

This contest is open ONLY to AMATEURS No professional cinematographer will be eligible to compete It is a contest solely for the amateur, either the individual or the club.

The contest officially opens November 1, 1931 The contest ends at midnight of October 31, 1932 All pictures must be entered by the closing date or they will not be considered. Entries mailed or expressed bearing the date of sending will be accepted if they reach THE AMERICAN CINEMATOGRAPHER office after October 31, 1932, providing the date shows they were sent before midnight of October 31, 1932

Pictures submitted in this contest will be judged upon photography, composition, direction, acting, cutting and entertainment value And only silent pictures will be eligible for the contest The judges, whose names will be announced later, will include outstanding and widely known Cameramen, Directors, Actors, Writers and a group of nationally known Motion Picture critics from some of the best known newspapers in America.

The decision of the judges will be absolutely final, and there can be no appeal from their decision Announcement of the awards will be made as soon after the close of the contest as possible and checks will be mailed the winners

Pictures may be submitted either by individual amateur movie makers, or they may be submitted by Amateur Movie Clubs However, they MUST BE photographed on 16 millimeter or 9 millimeter film Accompanying each entry must be a sworn statement to the effect that no professional cinematographer assisted in the making of the picture No pictures will be accepted which were photographed on 35 millimeter film and then reduced to 16 millimeter.

This contest is open to amateurs and amateur clubs anywhere in the world, with the following conditions

Only Bona Fide Subscribers to the American Cinematographer Can Compete

If you are a paid-up subscriber to THE AMERICAN CINEMATOGRAPHER you are eligible to enter the contest If you are not a subscriber just send in your check for a year's subscription and you are eligible.

In the case of Amateur Clubs the following rules apply

If a club with a membership of 20 or less wishes to enter a picture, the club will have to have a minimum of 5 subscribers among its members Any club with more than 20 members will have to have a minimum of 10 subscribers among its members For any further information you may desire, write the Editor of the American Cinematographer, 1222 Guaranty Building, Hollywood, Calif, or consult your photographic supply dealer

IF YOU WISH TO ENTER THIS CONTEST AND ARE NOT A SUBSCRIBER, MAIL COUPON TODAY

American Cinematographer, 1222 Guaranty Bldg, Hollywood, Calif.

Enclosed please find Check, or Money Order, for $3 00 ($4 00 foreign) for which kindly enter my subscription to THE AMERICAN CINEMATOGRAPHER for one year.

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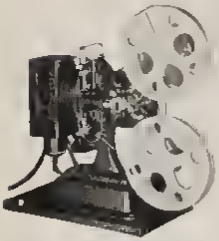
It is understood that this subscription makes me eligible to enter your $1000.00 Amateur Movie Contest.

Veuillez faire mention de l'American Cinematographer en ecrivant aux annonceurs.

The Challenge OF THE NEW YEAR.!



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VICTOR CINÉ-CAMERAS (left) are built in two models.

The ANIMATOPHONE TALKING Projector (right) is the acknowledged peer of all 16 mm Sound Projectors.

Praise

ARTHUR REEVES, head of the Hollywood Motion Picture Equipment Company, and originator of the Audio-Camex portable recorder is wearing a broad smile these days. The reason is found in "Filmland," a paper published in India. An editorial in said paper declared that the only good sound recording that has been done in India was done with an Audio-Camex set on the picture, "Devi Devyani."

Year's Best Films

OF UNUSUAL interest to those engaged in the making of motion picture is the following list of pictures selected by the Exceptional Photoplays Committee of the National Board of Review as the most meritorious films released between December 1, 1930 and December 1, 1931. Here they are:

First Ten

"Cimarron", "City Streets", "Front Page", "Quick Millions", "Surrender", "City Lights", "Dishonored", "Guardsman", "Rango", "Tabu".

Supplementary Ten

"Around the World in 80 Minutes", "The Champ", "Public Enemy", "Skippy", "Street Scene", "Bad Girl", "Little Caesar", "Sin of Madelon Claudet", "Smiling Lieutenant", "Trader Horn".

Foreign

"Die Dreigroschenoper" ("Beggar's Opera"), "Das Lied vom Leben" ("Song of Life"), "Le Million" ("The Million"), "Sous les Toits de Paris" ("Under the Roofs of Paris"), "Vier von der Infanterie" ("Comrades of 1918").

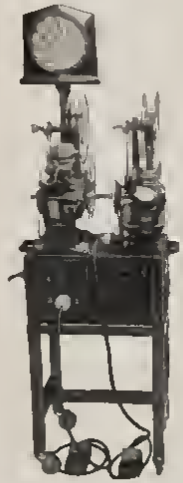
Selections of the first ten by the Board are based on a consideration of what films have contained some unusual quality that is purely cinematic. The supplementary list is for films that, without any special artistic pre-eminence, are nevertheless successful and in some respect important pieces of motion picture making. The foreign films are selected as all-important and unusual contributions to the screen.

◆

Agfa Extending Activities

WITH the start of the new year several changes took place in the Hollywood branch of the Agfa Raw Film Corporation that are of much interest to those in the motion picture business. E. M. St. Claire moved from the Los Angeles branch of the Agfa-Ansco Company to the head of the sales department of the Hollywood office, replacing King Charney.

Another important step was the bringing of Dr. Ing. Herbert Meyer from the Agfa factory at Binghamton. Dr. Meyer, long an executive in both the factories in Germany and Binghamton, now heads the Technical Service Department here. This will be a new development in the local branch, and a fully equipped technical laboratory is being installed and efficient technical service and advice will be furnished the studios by Dr. Meyer. Other new developments will be announced later.



MOVIOLA FILM EDITING EQUIPMENT

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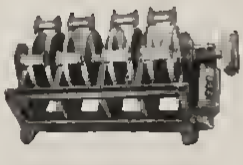

Write for descriptive literature

MOVIOLA COMPANY
1451 GORDON STREET HOLLYWOOD, CALIFORNIA

The Art Center School

FOR THOSE interested in still photography, one of the most interesting places to visit in Los Angeles is the Art Center School at 2544 West Seventh Street When this writer dropped in he found it difficult to tear himself away, for on the walls of the gallery was an exhibit of pictures done by our good friend, Will Connell One cannot adequately describe an exhibit of pictures We only advise you to go and see them yourself

Incidentally, Mr Connell is conducting evening classes in photography at this school, starting this month Advanced and beginning groups are receiving instruction The work covers both the elementary principles of photography and the highly technical methods of the professional Mr Connell told me that there will be very little of conversation and much of actual work, embracing lighting, form, composition and design, with very comprehensive demonstration and criticism Any ambitious amateur would do well to look in, for Mr Connell is a master at his art

◆

Plan Signal Corps Photographers Reunion For 1932

A MOVEMENT of interest to all motion picture and still photographers and laboratory men who served in the Signal Corps during the World War is now under way, according to word from Frank A Krueger of Trenton, N J Mr Krueger writes that a big reunion of the above mentioned men is being arranged to be held some time during 1932 For further information regarding this reunion you may write direct to Frank A Krueger, P O Box 331, Trenton, N J

◆

Victor's Revised Directory Valuable To All Amateur Movie Makers

ONE OF the most valuable booklets dealing with the 16 mm field is the fourth revised edition of the Victor Directory of Film Sources, issued by the Victor Animatograph Corporation This little booklet contains 64 pages of information of real value to any amateur.

In addition to listing all known sources of 16 mm films (business firms producing studios, distributors, etc) the directory now contains much authentic information and data concerning numerous uses of 16 mm films in the business, educational and religious fields This directory will be mailed free to anyone who will send a request to the Victor Animatograph Corporation, Davenport, Iowa

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WOLFEBORO, NEW HAMPSHIRE, U. S. A.

Pictorialists ATTENTION

Three cash prizes will be given for the three best photographs appearing in the pictorial section of this magazine during the twelve issues from October, 1931, to and including September, 1932

First Prize: $100.00 Second Prize: $50.00
Third Prize: $25.00

This competition is open to ANYONE, amateur or professional

The only requirement is that you must be a bona fide subscriber to the American Cinematographer. If you are not a subscriber, send your subscription and pictorial entry today to

The American Cinematographer
1220 Guaranty Bldg Hollywood Calif
Subscription price $3 00 a year Foreign $4 00

Lens Testing

(Continued from Page 13)

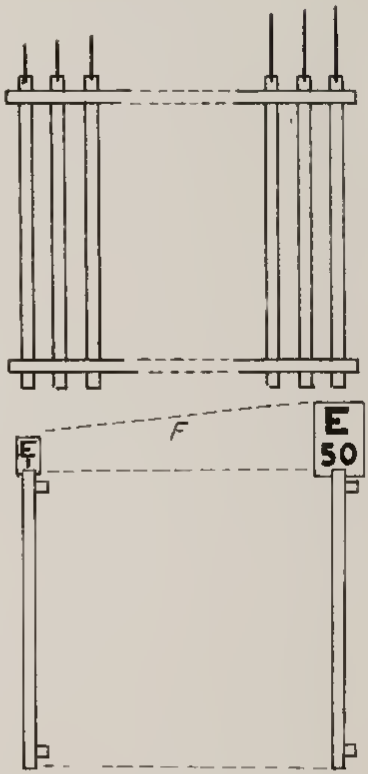

Fig. 12

EQUIPMENT NECESSARY

Motion picture camera and Fence, Figure 12.

Test No. 12 . . Object of Test . . Reflection and Lens Fog

METHOD OF PROCEDURE

Use camera on swivel mount of optical bench, adjust fulcrum for nodal point of Test lens attached to camera, focus star point of pinhole lamp placed in optical axis of test lens Rotate camera and observe through finder appearance, location and brightness of secondary, tertiary, etc star point images Check photographic exposure and determine density of images by densitometric measurement. Develop parts of exposure strip by different laboratory methods up to appearance of chemical fog, and make overall densitometric tests for "lens fog" for other parts of test strips developed to just below chemical fog appearance

Equipment Necessary

Optical bench, motion picture camera on swivel mount, pinhole lamp and densitometer.

Test No. 13 . . Object of Test . . General Definition

Read from result of Tests No 1, 6, 9, 11

Test No. 14. Object of Test . . Covering Power

Make densitometric test by photographing with test lens white screen about 15 feet distance with a black star on the screen center, plate or film at least three inches square for wide, half and quarter open lens A screen and a light dis-

tribution meter are needed in addition to previous named equipment

Test No. 15 . . Object of Test . . Surface Conditions

Investigate by visual (magnifier) inspection whole lens and if necessary, single elements under oblique light.

Test No. 16 . . Object of Test . . Other Physical Conditions

If lens action shows for any reason abnormal or unsatisfactory overall characteristics, especially regarding definition and focus, lens separation should be checked by lens micrometer, lens elements checked for true mounting, excessive bubbles, striae and discoloration also, optical axis checked as to obliquity by rotating lens between starpoint and the screen

Total of Necessary Equipment for All Tests

Optical bench Moore Filter, No 1 Ground glass plate Swivel mirror Adjustable lens holder Two square-ruled glass plates Arc lamp and condenser magnifier Two bulb lamp houses Ground glass plate with circular matte and fine ground center Set of standard arc lamps (carbons) Set of standard incandescent bulbs Spectroscope Half-silvered mirror Prism system for beam displacement Screen Chromatic aberration test unit mount Motion picture camera (head only) Swivel mount for motion picture camera Special shuttle with etched mirror and prism Pinpoint lamp Resolving power chart Fence and optical targets Densitometer Light distribution meter Lens micrometer

◆

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SYNCROFILM Model J sound head, a product of the Weber Machine Corp, has been developed and built especially for small theatres and designed for easy attachment on Simplex and Powers projectors

Compact and of sturdy construction, these sound heads are simple in design, and the threading of film is very easy, it is said The sound head is driven direct from motor to an accurately balanced combined pulley and flywheel by use of two round woven endless belts Projector is driven from sound head drive shaft, using high grade silent chain.

This drive is said to be smooth, quiet and insures correct reproduction of music or voice without tremor, waver or other form of distortion, the company declares

These sound heads come complete with all attachments for Simplex or Powers projectors, including optical systems, photo cells, exciter lamps, extra exciter lamp mounts, adjustable motor brackets, endless tubular belts, "V" grove motor pulleys and necessary equipment to raise lamp house

◆

RCA For Reo

THE REO Motor Company has contracted for the installation of RCA Photophone sound reproducing equipment in the auditorium maintained by the automobile company at its plant in Lansing, Mich, according to an announcement by E O Heyl, vice-president and general sales manager of RCA Photophone, Inc

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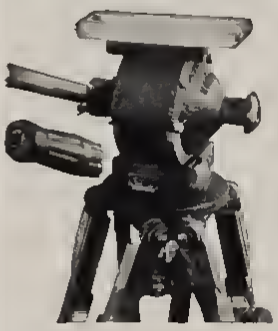

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Television Not Ready

Television has not yet reached the point where the Federal Radio Commission will recognize commercial possibilities in visual broadcasting, it is stated in the Commission's report submitted to Congress recently

Ingenious B. & H. Device

THE BELL & HOWELL Company has developed an ingenious micro-motion attachment for Filmo 70 motion picture cameras for use in time and motion study by industrial engineers, production managers, and all others interested in the efficient production of manufactured articles

The use of motion pictures in analyzing factory operations in order to reduce waste motion is growing rapidly, and this new device will be welcomed as affording a remarkably practical means of securing maximum results in this field

The new attachment permits of photographing the image of any standard stop watch together with the image of a data card on each frame of film exposed in making movies of a manufacturing process—or, of course, of other processes which are desired to be studied from a time and motion standpoint

In manufacturing operations time records have been registered on the film itself by placing a time clock in the camera field near the worker, but often this has made him "clock conscious," and his motions have not been normal and natural This new device overcomes this defect inasmuch as the worker does not see the watch

The device attaches to the base of the movie camera To the rear of the camera is a lamp house with a 40 watt lamp At the end of the lamp house farthest from the camera is one compartment to accommodate a stop watch and another for the data card upon which is written a brief description of the operation being filmed

The images of the watch and data card pass through a series of lenses in a tube connected horizontally with the lamp house and located directly beneath the camera This tube opens, also horizontally, into another but smaller tube on which is a dial calibrated in feet This dial is set to the same footage as the focusing dial of the photographic lens Near the end of the tube, on the inside, are a lens and prism by which the watch and card images are projected to a prism at the top and end of the tube, this latter prism projecting the images into the field of the photographic lens so that they are photographed on each frame of film at the bottom The matching of the two focusing dials, mentioned above, insures the sharp registration of the watch and card images on the film

As a preliminary condition of proper timing, the camera is calibrated at 1,000 frames per minute or multiples thereof

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Another Hollywood Rival

THROUGH the medium of the Associated Press comes word from Halifax N S to the effect that England is soon to have a counterpart of Hollywood The press report stated that Major C Fairbanks-Smith, managing director of the newly formed Empire Films, Inc., was authority for the information The Major was quoted as saying that he is in America to gather together skilled technicians who will take back to England their technical knowledge gained in America's film capitol The new British film center will be located at Slough, according to the report

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The Woman Film Director

(Continued from Page 10)

movies. The creation of popular entertainment, especially in this world of corporative economy and the industrialization of art, is not the Frenchman's forte. The French director, if he could preserve his own identity, would be the cinema's aesthetic stress, rather than the popular victualer. Germaine A. Dulac surely has her emphasis to lend.

She is, like many French directors, very clear and articulate in her conception of the motion picture. This critical comprehension is to her, at the present point in film-history, more important than the films themselves. The critiques, the studies, the polemics, she asseverates cast "a luminous ray into the obscure future and, with altruism, guide the cinema toward a precise destiny, revealing the cinema in its ideal strength, its perfect image." It will be seen that Mme. Dulac is eloquent in her love for the tenth Muse. As to herself, she belongs, she says, "ideally, if not in effect" to the school of pure movement, the **extra-visual**, as opposed to the "anecdotic school." Her aspiration is "the union of the two by means of their common factors: sincerity and the knowledge of the visual." The lack of artistic sincerity, which means to her finally the absence of devotion to the nature of the art, is the real cause of the failure of the anecdotic film to realize "the spectacle of a **work.**" The only liberty the commercial producer allows the director is the freedom of choice of theme, a freedom which is no freedom, because the choice is among a limited number of specific scenarios or plays or novels. The success of the Russian film, Mme. Dulac finds, is its devotion to the image. The best of the films of all nations are, she maintains, devoted to the expression of national experiences through significant images. The Russian, for instance, subscribed to the Stalinist formula of an art 'proletarian in content and national in form."

"The great fault of the cinema," says Mme. Dulac, "an art uniquely visual, is its failure to seek its emotion in the pure optic sense. Visually, by the movement of rhythms, the cinema composes its complex life. The cinema certainly can tell a story, but it must not forget that the story is nothing, a surface only."

I cannot say that I totally agree with Mme. Dulac. Let us not speak of a story but of an experience, a human experience. Its force, the social persuasion of the Russians, for instance, is the impetus of the film. Having been motivated, the film then seeks to convert this initial experience into the final aesthetic experience of the picture. It does so by the means Mme. Dulac urges. But since the cinema has a "complex life," too broad a characterization of it can be misleading.

Of such means Mme. Dulac is a delicious master. Take her best film- "The Sea Shell and the Clergyman". There is not in it a definitely apprehended story, but one does follow it as the succession of the image-experiences of an inhibited mind. They are most convincing as a mental state and very lovely as a rhythm. The ingenuity of the effects of imagery achieved is startling, though, as with all ingenuity, the method by which these effects are achieved is very simple. For instance, in one place, a body divides into two. It was effected so: the player must stand at severe rest. His head is propped by a brace to prevent the least movement. A thread is drawn midwise down the face. The camera is moved left-right with the thread as the limit of the scope of the lens. One-half of the negative has now recorded a movement while the other half has been masked to prevent any imprint. The movement is reversed to capture the second half of the figure upon the second half of the negative. The result on the screen is of a body moving away from its center in the opposite direction, a body splitting, although actually the body has never moved.

Germaine Dulac was one of the first of the artists to experiment with prisms, for distorted or multiple effects. She was one of the first to look for the kinetic effects of moving things.

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Amateur Movie Making

(Continued from Page 32)

ambitious story than you are technically ready to film You will write too much, or perhaps too little You will not be able to maintain the right balance, dramatically or cinematically, between your scenes and sequences This will give you trouble in directing, and more trouble in cutting your picture In consequence you will not save film and effort, but waste it For although a script is the foundation of a successful picture it must first of all be a good script—one that is based on experience, and knowledge not only of story values, but of production methods and conditions Therefore, since scripts embodying these qualifications are available, by all means use them until you have gained that experience for yourself And —don't be afraid to tackle something absurdly simple at the start! Too many amateur productions have been shelved simply because they have been started with more ambition than ability

The Importance of Imagination

In turning out any sort of a story for motion pictures—especially for the amateur production, where technical facilities are generally so limited—imagination is a prime requisite To quote Miss Beranger again

"Screen writing does not require rhetorical skill, it isn't literature, in that it isn't based on the written word But it does require great invention and imagination, because we have to think up all kinds of ways of showing in action what other people can say in words.

"The second requirement of the screen writer is the power of visualization This is the one latent trait that you need—you must have the ability to close your eyes and imagine just how a thing is going to look on the screen. Not only that, but you must be able to estimate just how valuable each bit of action will be to the completed picture.

"The third requirement of a screen writer is a knowledge of the technique of the screen. Nothing can teach you the actual craft of pictures but making them

"The fourth requirement is a sense of dramatic values' (This is as important in preparing a travelogue as in preparing a dramatic film.—W. S.) "You have to know the basis of drama Conflict and suspense make drama A story is interesting in proportion to the suspense you can give it. The Freytag Arch, which divides the action into exposition, complication, and denouement, is a good fundamental structure on which to base what you develop The audience is interested in a plot as it unfolds, and the characters as they develop, you must be able to handle both.

Another point is that of settings Settings should never detract from the plot. The audience should be able to assimilate beauty of setting at the same time it is getting plot The minute they are too conscious of setting it bothers them—it gets in the way of emotions and action"

Most of Miss Beranger's remarks are quite as applicable to the preparation of amateur scenarios as they are to professional ones True, the amateur is restricted in many ways, having far less in the way of technical, artistic and financial resources than the professional producer, but he can still produce an interesting and well-constructed picture He can have a well constructed plot, and well developed characters; the rest is dependent upon his ability as a director and cinematographer, and the ability of his actors

There are some technical details which neither amateur nor professional can overlook First of all, he must be careful that no detail—no character, motive, action, nor 'prop'—should suddenly appear out of nowhere Every important detail of this nature should be carefully 'planted' in the mind of the audience during the expository stage of the plot It need not be done ostentatiously, but it must be done so that when it is used later on it does not come as something unexpected and ridiculous

Most of all, the writer must be able to devise visual methods of conveying ideas There are, of course, times when a title must be used but the best motion picture (silent or sound) will always be the one in which the story is told as nearly as possible completely in pictures Therefore, don't hesitate to take advantage of every pictorial story-telling device that you can imagine, or that you have seen in professional pictures The fade-out and fade-in, for instance, will often cover lapses of time or changes of location Then there are innumerable purely visual devices that can convey ideas that, at first thought, you would think demanded a title If you have a lapse of time between evening and morning to bridge, it is much more effective to use, instead of the time-worn "Came the Dawn" type of title, a simple fade-out on the evening scene and a fade-in of a doorstep with milk-bottles and the morning paper. If you want to bridge the distance between New York and Paris, it is equally simple to make a lap—dissolve from the Chrysler Building to the Eiffel tower incidentally, these can both be done with stills and a title-board, while your action itself is made in Los Angeles or Kalamazoo

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Wandering With Vanderbilt

(Continued from Page 24)

is covered with a growth of various kinds and sizes of Eucalyptus with just a few trees of other kinds scattered amongst them The gum trees are the native wild tree of this part of Australia If you want an idea of what the back country or "bush" as they call it here is like drive over to Elysian part of the hills that are covered with Eucalyptus trees and are not landscaped

A Fox movietone truck came to the dock and some Graflex men from the newspapers to get shots of the Commodore When Mr Vanderbilt came on deck he made a very short but nice talk for the Fox news and the newspaper men got their shots

The two men on the Fox News outfit are very fine fellows Their home is in Sydney, just happened to be up here doing some stories

I decided not to go to Sydney as the time is too short. Sydney is a modern American type city of a population of 1,500,000, has the finest harbor in the world and is just completing the largest steel bridge in the world across a section of the harbor

The "Alva" couldn't go in drydock here, draws 3 feet too much water Probably will go in drydock at Singapore now She is being painted to the water line and masts and everything on deck also is receiving a coat of paint

There are several good picture theatres here so we are seeing some talkies first time since leaving the States

Sunday, went sightseeing around Brisbane and the suburbs about three P M, ended up on top of a 5,000 foot mountain which is sort of a park and a fine place to get a view of the City and all the surrounding country We could follow the course of the river like a long twisting silver snake far into the back country There is a refreshment parlor there and we had tea and scones just before sundown, then returned to town by another route.

Saturday afternoon, Mr Winterbottom, the proprietor of the hotel, and I went to the horse races We were in time for five of the ten races. The horses and track here is a great contrast to the one at New Caledonia; really good grandstand, well kept track and beautiful horses Every person here seems to be an ardent race fan, old, young, from the richest to the poorest

And now, on we go I hope to give you some more of my chatter later

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